INFORMATION SESSION: MARINE SPATIAL BIODIVERSITY PRIORITIES AS AN INPUT INTO MARINE SPATIAL PLANNING

22 October 2020, 13h00 to 16h00

Microsoft Teams

On 22 October 2020, an Information Session on marine spatial biodiversity prioritization was held by Oceans and Coasts (O&C) Research, partnering with Nelson Mandela University (NMU) and the South African National Biodiversity Institute (SANBI). The Information Session followed from a national Ecologically or Biologically Significant Marine Areas (EBSA) workshop held at Kirstenbosch in February 2020, where updated EBSA status assessments, draft zones and management recommendations, alignment with marine Critical Biodiversity Areas (CBAs), and the integration of EBSA information into Marine Spatial Planning, had been discussed. The Information Session expanded on this process, and was titled:

> *Marine Spatial Biodiversity Priorities as Input for Marine Spatial Planning (MSP) - taking Ecologically or Biologically Significant Marine Areas zoning and management recommendations and Critical Biodiversity Areas Map and sea-use guidelines into planning and decision-making processes.*

Motivation for the workshop was recognition that prioritization of marine areas for protection or enhanced biodiversity management has potential consequences for industries and users of marine space and resources. Further, there is a critical need for adequate stakeholder engagement during the process. Because of the global COVID pandemic, the meeting was held virtually using the Microsoft Teams platform. This is perhaps not the best platform for stakeholder engagements, but was the best option available. The meeting was seen as an opportunity to inform stakeholders, rights holders and other interested parties of current and planned marine spatial prioritization work for informing MSP, marine protected area (MPA) expansion, and other area-based management processes. The goals were stimulating further engagement with the different sectors, informing scientists and social scientists of the work underway, and advertising opportunities to contribute data and expertise to the process. Furthermore, the Information Session was seen as an opportunity to provide clarity on the complex arena of different but related concepts, processes and acronyms associated with area-based prioritization and management, including EBSAs, CBAs, Ecological Support Areas (ESAs), MSP, MPAs and other effective area-based conservation measures (OECMs).

The Information Session was inspired by our main principles which are evidence-based advice, using best available data, and transparency in process by stakeholder engagement and producing technical reports that are publicly available. The need for a robust and iterative stakeholder engagement process to secure implementable Marine Protected Areas was thus a topic of one of the presentations, based on lessons learned from MPA expansion under Operation Phakisa, and related processes. The Information Session also provided an opportunity to inform participants about the current state of MSP in South Africa and future plans – presented by the MSP Secretariat – and on how the environment sector (fronted by O&C Research, NMU and SANBI) is engaging in the MSP process to secure appropriate marine zoning and other place-based mechanisms, with feedback on initial engagements that have been held with some sectors (in particular the oil and gas sector) regarding EBSA zoning (and management recommendations) and CBAs (with sea-use guidelines). However, the main objectives of the meeting were:

- To inform participants of the new National Coastal and Marine Spatial Biodiversity Plan: Map of Critical Biodiversity Areas and Sea-Use Guidelines – this presents a spatial plan for the natural marine environment, designed to inform planning and decision-making in support of sustainable development;

- To provide an overview of the science underpinning the approach, with a focus on relevant components of the National Biodiversity Assessment 2018;
- To provide an introduction to the range of possible place-based protection mechanisms in a marine context (zoning, sector specific regulations, MPAs, OECMs, etc); and
- To explain the proposed process of moving from spatial priorities and management recommendations (i.e. the EBSA zoning and management recommendations, CBA map with sea-use guidelines), to presenting a refined spatial case to the MSP process to be secured via zoning, which could also be used to inform planning for potential MPA expansion.

The agenda for the Information Session is provided in Appendix 1. The session was attended by 142 participants, representing at least 50 organizations, including government departments, private entities, private companies and industry bodies, NGOs, academic institutions, consultancies, and national, provincial and municipal management authorities. There were also participants from as far afield as Mozambique, Angola and Kenya. The full participant list is provided in Appendix 2.

The National Coastal and Marine Spatial Biodiversity Plan: Map of Critical Biodiversity Areas and Sea-Use Guidelines has been designed to inform planning and decision-making in support of sustainable ocean development. The intent of this plan is to consolidate the biodiversity sector's spatial prioritisation of the South African coast and ocean to provide inputs into national MSP as well as other planning and decision-making processes. This is to ensure that marine biodiversity assets and ecological infrastructure are secured, and that development of the ocean economy is ecologically sustainable. It also includes contributions towards identifying focus areas for Marine Protected Area (MPA) expansion, which builds on work that supported the declaration of 20 new MPAs in 2019. Key recommendations to come out of the Information Session include that, for both MPA expansion processes and MSP (i) Well designed, co-ordinated stakeholder processes with engagement throughout is highly recommended, and these should be informed by clear aims and objectives; (ii) Engagements should be tailored to meet stakeholder needs in an adaptive process, and can be informed in future by trans-disciplinary research, to achieve multiple benefits for all; (iii) Coastal areas in particular need focused attention at multiple scales and will need longer stakeholder process to resolve coastal complexities, compared with offshore areas; and (iv) Relationships are critical to the difficult negotiations that will need to be facilitated in planning use of ocean space. Summaries of presentations are provided in Appendix 3.

Spatial outputs presented at the Information Session are currently being incorporated in the Environment Sector Plan for MSP, to be finalized in 2021. As a way forward, further engagements with sectors and stakeholders are being planned for 2021. More than 80 questions and comments that were submitted by participants during the meeting by making use of the 'chat' function, or via our online process (jotform) are addressed in Appendix 4. Videos and pdfs of the presentations are available on the EBSA Portal.

Appendix 1:

INFORMATION SESSION: MARINE SPATIAL BIODIVERSITY PRIORITIES AS AN INPUT INTO MARINE SPATIAL PLANNING

22 October 2020; 13h00 – 16h00

Microsoft Teams

13h00 Introduction:

- Meeting opening – *SP Kirkman (meeting Chair)*
- Welcome, highlighting the importance of the MSP process and South Africa's international commitment to increasing MPA estate – *J Beaumont*
- Marine Spatial Planning process: Approach, process, timelines and stakeholder engagement – *M Ramakulukusha*
- The need for a clear set of marine spatial biodiversity priorities for inclusion into MSP and options for securing spatial priorities through place-based measures – *SP Kirkman*
- Lessons from the Offshore Environment Forum and the Phakisa MPA consultations the value of a robust, inclusive and iterative stakeholder engagement process – *K Sink*
- Q&A session

14h05 Break

14h20 Marine Spatial Biodiversity Priorities:

- Building a coherent set of marine spatial biodiversity priorities for inclusion into MSP – *S Holness*
    - The underlying science and approach (how we identify priorities) :
        - Overview of the science underpinning the approach, with a focus on relevant components of the National Biodiversity Assessment 2018 – *P Majiedt*
        - Recap: EBSA identification and updates – *SP Kirkman*
        - An overview of the underlying concepts of systematic planning: irreplaceability, best design, conflict avoidance – *L Harris*
    - Spatial priorities and management recommendations (the work we've done so far):
        - The EBSA zoning and management recommendations, process to date and feedback on initial engagements on the EBSA zoning (and management recommendations) and CBAs (with sea-use guidelines) – *S Holness*

- Launch of the process for the National Coastal and Marine Spatial Biodiversity Plan: Map of Critical Biodiversity Areas (CBA Map) and Sea-Use Guidelines V.1 – *J Manuel / L Harris*

15h30 Break

15h40 Final session:

- Q&A session
- Wrap up and way forward

Appendix 2:

INFORMATION SESSION: MARINE SPATIAL BIODIVERSITY PRIORITIES AS AN INPUT INTO MARINE SPATIAL PLANNING

22 October 2020, 13h00 -16h00

Participant List

Judy Beaumont (O&C, presenter)	Samantha De la Fontaine (DENC)	Laurence Pearce (Impact Africa)	Samuel Pillay (Sustainable Seas Trust)
Moses Ramakulukusha (O&C, presenter)	Alan Boyd (O&C)	Sarah Wilkinson (CapMarine)	Lomberg Nicole (ENI)
SP Kirkman (O&C, presenter, Chair)	Shikeva, Josef (de Beers)	Gavin Elliott	Keith Spencer (CapeNature)
Kerry Sink (SANBI, presenter)	Philip Desmet (EcoSol)	Rachel Kramer (WildOceans)	Madimetja S Lephoto
Prideel Majiedt (SANBI, presenter)	Michelle Pretorius (DEFF)	Lara Atkinson (SAEON)	Kelly Ortega Cisneros (UCT)
Stephen Holness (NMU, presenter)	Tracey McGahey (DFEFF)	Andrea Pulrich (Pisces)	Rhett Bennett
Harris, Linda (NMU, presenter)	Sorgenfrei, Roman (GIZ NA)	Adams, Robin (WWF)	Sherelee Odayar
Jeff Manual (SANBI)	Roos, Lesley (de Beers)	Kruse, Michele (de Beers)	Merle Sowman (UCT)
Maya Pfaff (O&C, Convener)	Dylan Bailey (Bayworld)	Costa, Hugo (Wildlife Conservation Society, Mozambique)	Anna James
Rodashia Sue-Carmen Basson (O&C, minutes)	Deon Geldenhuys (CapeNature)	Wehncke van der Merwe (SanParks)	Kagiso Mangwale (ECPTA)
Louise Geldenhuys (DENC)	George Branch (UCT)	Vicki Hudson (CapeNature)	Ndanduleni Ivy Malwela
Jean Purdon (MRI, UP)	Kerwin Rana (Sunbird Energy)	Daniso BABALWA	Kirsty Du Plessis (I&J)
Amy Wright (Anchor)	Jan Maier (Africa Energy Corp)	Kaylee Smit (UCT)	Natalie Uys (DENC)
Christina Hagen (Birdlife SA)	Keely Harris (Impact Africa)	Katta Ludynia (SANCCOB)	Eleutério Duarte (Mozambique)
Rushdi Ariefdien (O&C)	Andre Spies (SANParks)	Marek RANOSZEK (Total)	Simmy Bezeng (Birdlife Int)
Megan Van Der Bank (SANBI)	Ane Oosthuizen (SANParks)	Anschen Friedrichs (Sunbird Energy)	Jodie Reed (NMU)
Myriam Perschke (NMU)	Karl Otto (SAMSA)	Dylan McGarry (One Ocean Hub)	Nicole Du Plessis (SAMREF)

Dr Stephanie Plön (Bayworld)	Briege Williams	Alistair McInnes (Birdlife South Africa)	Trevor John Coetzee (O&C)
Jabu Nhleko	Els Vermeulen (MRI, UP)	Vusumuzi Sihwa (New Age)	Maia Nangle (Masifundise)
Estee Vermeulen (NMU)	Nina Rivers	Enrico Gennari (Oceans Research)	Thomas MAXWELL
Alexis Olds (CapeNature)	Maryke Musson (Two Oceans Aquarium)	Alison Kock (SANParks)	Phumla Ngesi (PASA)
Jackie Sunde (NMU)	Stewart Norman (CapMarine)	Tegan Carpenter-Kling (Birdlife SA)	Andrew Plumptre (Birdlife Int)
Sediqa Khatieb (SANBI)	Morais, Kurt J (Shell)	Bill Torr (Africa Energy Corp)	Kevin Hustler
Barry Clark (Anchor)	Abena Kwayisi	Thomas NATASHA (PetroSA)	Madimetja S Lephoto
Stet Mushwana (PASA)	Monica Stassen (WWF SA)	Mashaba, Vincent (SASOL)	Vladimir Russo (Angola)
Pete Fielding (Fieldwork)	Eduard GROENEWALD (Total)	Anthea Davids (PASA)	Merle Sowman (UCT)
Tanya Haupt (O&C)	Tsamaelo Malebu (SANBI)	Giselle Murison (Birdlife SA)	Qhawe
Kanakana Mushanganyisi (O&C)	Mia Strand (NMU)	Adnan Awad (International Ocean Institute)	Nicole Horn (CapeNature)
Cristina Louro (Centro Terra Viva, Mozambique)	Thato Maila	Mercy Amai (Alumni IOI , Kenya)	Khalid Mather (WWF)
Sagwata Manyike	Johann Augustyn (SADTIA)	Taryn Pereira (One Ocean Hub)	Doug Butterworth (UCT)
Nozipho Mkhabela (I&J)	Siyabonga Dlulisa (O&C)	Shakirah Rylands	Sisanda Mayekiso
Toufiek Samaai (O&C)	Buhle Francis	Victoria Goodall (NMU)	Godongwana VUYOKAZI
Rossouw, Nigel (SLR Consulting)	Robert Landman (I&J)	Msimelelo Gqaleni	Vena GCOBISA (PetroSA)
Lindokuhle Xulu	Tiyisani Chavala (O&C)	Sue Lane (private/Lwandle)	Celso Montanha (Convidado)
Ndiviwe Baliwe O&C)	Piers, Laetitia (WWF SA)	Andrea Angel (Birdlife SA)	Belinda Clark (CEN IEM)
Dudu Ntombela	Jonathan Julius (O&C)		

Appendix 3:

MEETING MINUTES

1st session

1. Meeting opening

Meeting was opened and all in attendance were welcomed by Dr SP Kirkman and Ms J Beaumont (both O&C), respectively.

A brief introductory talk was provided by Ms Beaumont, highlighting the importance of the MSP process and South Africa's international commitment to increasing MPA estate. Reasons why biodiversity is important to us were emphasized including that: (i) Humans depend on the services that ecosystem provide (e.g. oxygen production, climate stability and carbon sequestration, food security and medicines) and biodiversity loss weakens ecosystems, which are then less capable of providing those services, especially given the needs of an ever-growing human population; (ii) At least 40 percent of the world's economy and 80 percent of the needs of the poor are derived from biological resources; (iii) Biodiversity is an essential part of the solution for climate change. In coastal areas, mangroves, seagrass meadows and kelp forests absorb and store large amounts of carbon. These and other coastal ecological infrastructure also buffer us from impacts of storm surges and sea level rise in coastal areas; (iv) There is a close link between degradation of nature and disease outbreaks which can have devastating effects for human health and the global economy. Protecting nature saves lives and money.

Ms Beaumont stated one of the critical actions identified in the NDP 2030 is to implement "interventions to ensure environmental sustainability and resilience to future shocks." Alongside the NDP2030, South Africa is also guided by its international commitments under the Convention of Biological Diversity to act as custodians of our national environmental heritage, and also as custodians for our shared global heritage as a megadiverse country with the third highest level of marine endemicity in the world. However, like many other nations, South Africa is in the process of trying to advance our ocean economy to expand economic growth, and food and energy security through the growth of several marine sectors. This is being done in terms of the government's Operation Phakisa. In many cases such growth will be concentrated in coastal and shallow shelf regions of the ocean environment, resulting in considerable potential for inter-sectoral and / or sectoral-environmental conflict in these areas. Hence the need for MSP to ensure informed and coordinated decisions about how to use resources sustainably, considering the impacts and requirements of multiple sectors/users. South Africa is in a unique position to learn from the mistakes of more industrialised maritime nations, and to ensure that our current growth strategy enables future growth by preserving our ecological resilience to the imminent threats of climate change. We have already made great strides in securing some of our marine ecological infrastructure with the declaration of 20 new MPAs through Operation Phakisa, and need to build on this momentum to contribute to the country achieving the goals of the NDP 2030, and supporting sustainable expansion of our Oceans Economy. The biodiversity sector is thus a key sector in providing an enabling environment for economic growth and expansion that is environmentally sustainable. A role of the sector is to identify marine and coastal areas of particular importance for biodiversity, and to provide strategic advice on how to advance the case for enhanced management to secure the biodiversity in these areas through MSP, MPAs or other effective conservation measures. Transparency and a participatory approach are essential to these processes, as underlined in the Marine Spatial Planning Act, The National Environmental Management Protected Areas Act, as well as in the guidance of the CBD. Ms Beaumont thus concluded that in the spirit of engagement with stakeholders and interested and affected parties, we the sector would share the progress made up to now, the science underlying it, and proposals for engagement and

iterative progress going forward, especially in terms of using the work done as an input into the coming planning process within the MSP framework.

2. Marine Spatial Planning: Operation Phakisa Oceans economy

Mr M Ramakulukusha (O&C), Convener of the MSP National Working Group, spoke on MSP in South Africa, which was introduced in 2014 when Operation Phakisa was launched. Mr Ramakulukusha stated that in May 2019, the President signed the MSP Act into law which provides a legal basis for advancing MSP in South Africa. Some of the objectives of the MSP Act, No. 16 of 2018 are: 1) to provide a framework for MSP in South Africa, 2) to provide for the development of marine spatial plans and 3) to provide for institutional arrangements for the implementations of marine spatial plans and governance of the use of the ocean by multiple sectors. DEFF has been designated by Cabinet as the lead Authority for Marine Spatial Planning; in this it collaborates with all authorities that have mandates in the South African Ocean Space, and facilitates the MSP process.

Mr Ramakulukusha summarized the timeline of MSP in South Africa since 2014 as follows: MSP was identified as one of the priorities under Operation Phakisa in 2014; the MSP-National Working Group was established in 2015; the National MSP Framework was published which provide high level guidance on how MSP should be undertaken in South Africa (2017); the MSP Act (Act NO. 16 of 2018) came into place in 2018; and in 2020: National MSP Data and Information Report are being finalized. These will be critical for informing sector plans and the MSP process.

According to Mr Ramakulukusha, four marine area plans will be developed throughout the South African ocean space from the high water mark up to the end of the EEZ. This includes three for the mainland EEZ and one for the Prince Edward islands in the Southern Ocean. Sector plans are currently under development; these will help inform what the sectors hope to achieve through the MSP process. In these plans, each sector needs to specify its “spatial ask” as input to the MSP, i.e. what does each sector want and where? These sector plans will be integrated across sectors to develop agreed, negotiated marine area plans, to be applied throughout the South African inter-ocean.

3. The need for a clear set of marine spatial biodiversity priorities for inclusion into MSP, and options for securing spatial priorities through place-based measures

This was presented by Dr SP Kirkman of O&C. This talk unpacked much of the terminology that would be used in subsequent talks. Dr Kirkman began by saying that 2020 represents a big year internationally for biodiversity because under the CBD, to which SA is a party, a new Global Biodiversity Framework is being negotiated which will define targets and pathways for the conservation and management of biodiversity for the next decade and beyond, and ultimately provide a roadmap to the 2050 vision of a world living in harmony with nature.

In South Africa, following the declaration of 20 new marine areas under protection, there are now 41 MPAs within the continental EEZ, of which many are zoned to permit some form of use that may not be incompatible with the protection objectives. The term ‘other effective area-based conservation measure’ seems to originate in Aichi target 11, where the area-based conservation target for the Strategic Action Plan for 2011 to 2020 made allowance for both protected areas and OECMs. However, it was not actually defined until 2018, and since then many countries have been scrambling to identify OECMs in their jurisdiction, so that they can report them against their 2020 targets, along with conventional protected areas. South Africa is doing this for land areas but OECMs have not yet really been assessed for the marine environment in South Africa. Unlike for protected areas, OECMs do not require a primary objective of

conservation, but whatever their primary objective is, they need to be effective at delivering positive outcomes for biodiversity in the long term. They need to be there for the long term and year round, and so their governance mechanism and management system needs to be sustained. They must also be of a viable size, which may vary depending on the biodiversity there, and it must provide ecosystem functions and services, not excluding cultural, spiritual, socio-economic and other relevant values.

Dr Kirkman reminded that MSP was enacted in SA in 2018. According to the National Framework for MSP, one of the characteristics of SA's MSP process is that it is Ecosystem-based: balancing economic, social and ecological goals and objectives, towards achieving sustainable development with a focus on maintaining the provision of ecosystem services over time, and with the underlying logic that good biodiversity management underpins a healthy economy. Of the main goals identified for MSP in SA, "ensuring healthy marine ecosystems" is aimed at protecting, conserving and restoring South Africa's rich marine biodiversity by managing its living and non-living resources in a harmonious manner. It does so by identifying ecologically and biologically important areas and by integrating biodiversity objectives into decision-making, which have been the main areas of focus of the project on Ecologically or Biologically Significant Marine Areas (EBSAs). Related to this it allows for the identification and reduction of conflicts between human uses and nature, the allocation of space for biodiversity and nature conservation and the reduction of the cumulative effects of human activities on marine ecosystems. This is achieved through zoning with spatial regulations, which pre-define use or combinations of use in certain places. Such zoning and regulations will of course not only be used to manage or conserve biodiversity assets, but also to manage and grow other activities such as fisheries, mariculture, tourism, geological resources, maritime transport, and others. Other regulations, such as sector specific regulations may also contribute to biodiversity at some level, even if they are not counted towards targets. Examples may be some fisheries regulations, focused ship lanes that avoid sensitive area, and exclusion areas for underwater infrastructure.

4. Lessons from the Offshore Environment Forum and the Phakisa MPA consultations - the value of robust, inclusive and iterative stakeholder engagement process

Prof K Sink (SANBI) presented on the lessons learned during the Offshore Environment Forum (established in 2010 to build and strengthen relationships across sectors to improve information sharing and collaboration and support integrated knowledge, planning and management for the offshore environment), as well as stakeholder consultation processes for the Offshore Marine Protected Area project (a 5-year project to support the establishment of a representative network of offshore marine protected areas), as well as for the Addo Elephant National Park MPA, KZN MPA expansion plans, and the Operation Phakisa MPA initiative. The latter, from 2014-2019, included a government consultation process for all offshore MPAs, Addo and Robben Island. There were 12 in-process consultation events, 73 follow-ups, national roadshows in 2016, 378 written comments, >30 additional negotiations, and finally, balanced compromises for 5% protection was reached. Analysis of the process showed that objections declined from coastal to offshore areas, with the highest number of objections being for Robben Island, an MPA for which there had not been a proper consultation process prior to declaration, in contrast to other Phakisa MPAs.

An insight from the processes were that stakeholder consultation concerns were the dominant concern in that comment process, reflecting the need to learn and keep improving in this area. Prof Sink highlighted the 5 key lessons from her work in this area over the years, namely that (i) Stakeholders matter: they have valuable insights and data that can strengthen the foundations of spatial biodiversity assessment and prioritisation, reduce conflict and support problem solving. Engagement throughout the process helps build joint understanding, identify and mitigate problems early in the process and build

relationships; (ii) One needs to recognize and accommodate Stakeholder complexity; (iii) Processes matter: Stakeholder engagement processes influence participation, perspectives and issues raised; (iv) Coastal ecosystems and estuaries in particular have increased interests, greater stakeholder complexity and legacy challenges that need substantial investment and time to resolve; (v) A lack of engagement can increase misconceptions, waste resources and complicate negotiations BUT Many factors influence stakeholder support. In conclusion, Stakeholder engagement is a cornerstone of equitable planning and underpins the balanced compromises that may be needed in negotiating ocean space.

The following recommendations were made by Prof Sink: (a) A well designed, co-ordinated stakeholder process with engagement throughout is highly recommended. This should be informed by clear aims and objectives; (b) Engagements should be tailored to meet stakeholder needs in an adaptive process. Trans-disciplinary research can inform future processes to achieve multiple benefits for all; (c) Coastal areas need focused attention at multiple scales and will need a longer process to resolve coastal complexities; (d) Relationships are critical to the difficult negotiations that will need to be facilitated in planning use of ocean space.

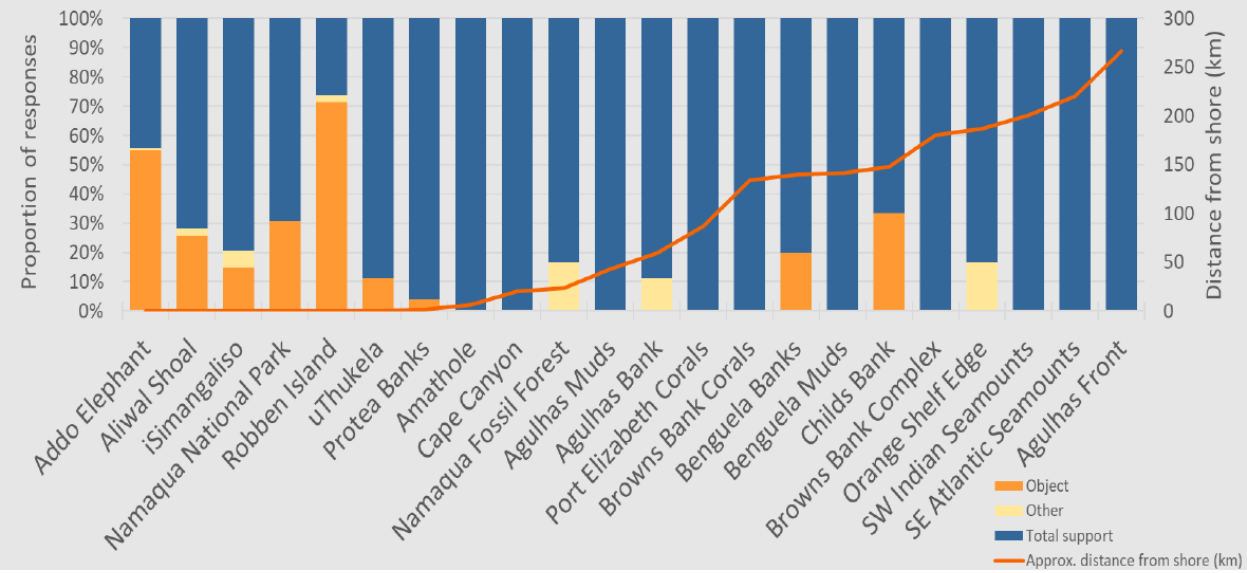

Figure 1. An analysis of responses to Operation Phakisa MPAs, in relation to distance from shore

2nd session: **Building a coherent set of marine spatial biodiversity priorities for inclusion into MSP**

Dr S Holness (NMU) introduced the session, under the above title. According to Dr Holness the building of a coherent set of marine spatial biodiversity priorities for inclusion into MSP goes through 3 main steps. These are reflected in the presentations of the session which look at (1) some of the underpinnings of the evidence base; (2) looks at some of the initial steps to building a coherent set of marine spatial biodiversity priorities; and (3) How it is anticipated that this would feed into the MSP Process.

5. Overview of the science underpinning the approach, with a focus on relevant components of the National Biodiversity Assessment 2018

Ms P Majiedt (SANBI) presented science underpinning the approach of prioritizing marine spatial biodiversity areas, focusing on the relevant components of the National Biodiversity Assessment (NBA).

The NBA is mandated by the Biodiversity Act and provides a snapshot of the status of biodiversity at the ecosystem, species and more recently genetic level.

The NBA relies on two headline indicators namely Ecosystem Threat Status and Ecosystem Protection Level. Both indicators are supported by marine ecosystem classification and mapping that have been improved recently by increased investment in research to support effective spatial assessment, planning and management. Threat status is based on the IUCN risk assessment framework for ecosystems and species. It is assessed by overlaying the different pressures, e.g. fishing or wastewater inputs, over the ecosystem map to determine the level of impact on these ecosystems and thereby determine their condition. Overlaying the different impacts, taking into consideration the intensity of impacts and the recovery time of ecosystems from the impacts, allows for the condition of ecosystems to be determined. These are categorized in the following four categories: natural/near-natural, moderately degraded, severely degraded and very severely degraded. By evaluating the proportion of ecosystems in good condition against biodiversity targets, the Threat Status is determined. Protection level addresses the extent to which ecosystems and where feasible, species are protected. It is assessed by overlaying the map of protected areas over the ecosystem map to determine the proportion of each ecosystem that is represented in our network of MPAs. These indicators provide a way of comparing results between different realms (e.g. land, sea) and provides a standardised framework that links to policy and legislation, thus facilitating the science-policy interface.

6. Recap - EBSA identification and updates

Dr Kirkman provided a recap on Ecologically or Biologically Significant Areas (EBSAs) in South Africa. EBSAs, which are a concept of the CBD to which SA is a party, describe delineated features or areas of the ocean or coasts that have high ecological or biological importance and which may require enhanced management or conservation measures. Those areas or features that are identified and proposed as potential EBSAs are assessed against 7 different CBD criteria, and have to score highly in terms of at least one of these criteria. This is a scientific and technical exercise, and the CBD is clear that EBSAs do not have any legal implications, they are simply special features or areas delineated on a map, with a description of what is there and why it is special. The CBD encourages parties to use EBSAs as a tool to progress towards implementation of ecosystem-based management of marine and coastal space. In this regard, enhanced management or conservation measures for EBSAs, or parts of EBSAs, may be achieved through a variety of approaches including through EIA requirements, MSP zoning, MPAs or other measures.

For SA, areas meeting the EBSA criteria have been previously identified and described through CBD processes, specifically regional workshops for SE Atlantic and West Indian Ocean regions in 2012 and 2013, following national meetings. Those that made it through review were eventually adopted by CBD COP in 2014. This included 12 EBSAs within South Africa's EEZ, and 7 shared with neighbouring countries or extending into ABNJ. The MARISMA project, which began in 2014, had a goal to support national processes to achieve socio-economic development, through ecosystem-based management (especially MSP) that balances sustainable use and protection of the marine environment. EBSAs were identified as a potentially useful tool to inform MSP, from the environmental perspective. That is, to put forth the environmental requirements to managers and planners (or some might say the biodiversity requirements).

As reasons for updating South Africa's EBSA network under the EBSA workstream of the MARISMA project, Dr Kirkman explained that the usefulness of EBSAs as a scientific and technical tool to inform MSP (which requires information that is as detailed and accurate as possible), needed to be enhanced. The original EBSA delineations, all of which were expert based, were considered to be too coarse to be useful for integration into any Spatial Management Plans that also need to include other sectors/stakeholders.

These boundaries simply blocked off whole areas around where a feature was meant to be. It was considered that more defined, spatially explicit EBSAs are required to help identify the exact areas that should feed into MSP processes. Furthermore, there is now a lot more scientific information to inform the process than in 2012-13, including from several research surveys, and the expertise and analytical methods for more systematic evaluation and delineation of EBSAs are available. Finally, there is also the need for a more robust and cross-sectorally inclusive EBSA process than was the case when EBSAs were initially identified.

In terms of how they were updated, the updated marine ecosystem map that was completed in 2018, which included data and information from surveys subsequent to the original EBSA descriptions, was used. Some of these updates provided more precision about the location and extent of features of interest, although precision is still expected to decrease from inshore to offshore. A systematic conservation planning approach to identify new potential areas to be assessed against EBSA criteria was applied. Suggestions for new areas or revisions from participants in several national workshops that were held, where scientists, managers, NGOs and sectors were represented, were also considered, and further, an interactive online system where people can query EBSAs or provide input was made available. Sophisticated spatial analytical techniques to delineate boundaries or revise boundary delineations were used, and there were regular engagements on process and progress with DEFF's National Marine Biodiversity SWG, which served as the scientific reference group for the project. There was also regional consultation especially with regard to transboundary workshops, and what was produced underwent international review.

Modifications that were made included three new EBSAs that were identified and described, namely the Tsitsikamma-Robberg EBSA, the Seas of Good Hope EBSA, and the Protea Seamount Cluster; 14 EBSAs were revised including two original EBSAs that were split into separate EBSAs and 2 transboundary EBSAs with Namibia. Revisions included changes in boundary delineations, with new boundaries reflecting our principle of having the best possible alignment between the boundaries and the feature described, to better inform spatial management. Other changes include name changes (more descriptive names), some changes in criteria scoring, and alterations to content (where applicable). Dr Kirkman concluded that the revised descriptions that have been completed have been approved by the Minister, and have been submitted to CBD Secretariat, where they will be reviewed once the modalities for review are clarified.

7. An overview of the underlying concepts of systematic planning: irreplaceability, best design, conflict avoidance

Dr L Harris (NMU) provided an overview of systematic planning and its underlying concepts. She said that systematic biodiversity planning is a science-based, evidence-based and data-driven decision support tool. Two main principles of systematic biodiversity planning are representation and persistence. The principle of representation is that a sufficient sample of all biodiversity is selected for inclusion in the priority areas; the principle of persistence requires maintaining the ecological processes for biodiversity to persist over time, particularly in the face of rapid global change. Fundamental to realising both principles, is the setting and achieving of quantitative biodiversity targets for mapped (surrogates of) biodiversity pattern and ecological processes. Ecosystem types are the surrogates that are used in South Africa.

A key characteristic of systematic biodiversity planning is complementarity and spatial efficiency rather than a hotspot approach to achieve spatial efficiency. That is, sites with complementary assemblages of biodiversity rather than hotspots of biodiversity (which, collectively, may not be representative of all biodiversity in the planning domain), are selected to represent all species in the most compact, spatially efficient configuration. Another key characteristic is conflict avoidance. The more that areas proposed to

secure biodiversity avoid areas of high interest for other activities, the higher the likelihood of more expedient implementation because there are fewer negotiations and compromises required.

The most commonly used decision-support tool for prioritizing biodiversity areas in South Africa is Marxan, which takes a target-driven approach and helps achieve the overarching goals of representation and persistence of biodiversity. Marxan is a robust method and widely used conservation planning software, however obtaining the most optimal results does require the best available data on biodiversity features and human activities (costs). These data need to be supplemented with data for species that aren't well represented by ecosystem types or that need particularly careful management and/or protection. Irreplaceable or near-irreplaceable sites are those that are selected with 100% selection frequency (or nearly) to meet biodiversity targets, with limited, if any, option to meet targets elsewhere.

8. **The EBSA zoning and management recommendations, process to date and feedback on initial engagements on the EBSA zoning and CBAs**

Dr Holness confirmed that EBSAs are an intrinsic part of the integrated portfolio of marine spatial biodiversity priorities. EBSAs, CBAs and marine spatial biodiversity priorities should not be seen as different entities, these concepts are deliberately part of the same integrated picture. The initial set of EBSA were identified in 2012 and then from 2016 to 2020 were revised and updated. Provisional recommendations on management needs were produced, looking at zoning, objectives and activity recommendations. The plan was to split South Africa's EBSAs between two zones, one being the Biodiversity Conservation Zone where the objective is looking at strict place-based protection which is aimed at securing these areas in a natural or semi-natural state. The second zone would be an Environmental Impact Management zone where the objective is to look at the management of impacts on key biodiversity features in a mixed-used area to keep key biodiversity features in at least a functional state. These proposals were developed during several national stakeholder workshops. Some issues that were raised during the workshops included that this was too difficult since each EBSA had its own set of recommendations and did not cover areas outside of the EBSA. Also raised was the need for a single coherent input into MSP. Furthermore, the process was also rather inconsistent in its treatment of current vs potential industries and it was highlighted that there was missing key industry and sector data.

However, management recommendations have been revised since the February 2020 meeting. Revisions include: (i) Alignment of management recommendations for zones with the sea-use guidelines of the CBA map (ii) Compatibility and recommendation tables were fixed to be more consistent and more easily interpreted. In terms of this, activities are considered to be either compatible, not compatible, or conditionally compatible with the management objectives of zones; (iii) Sectors were split into much more specific components where applicable (e.g. the different components of oil and gas exploration and production); (iv) There was better alignment with the language of the MSP framework; (v) Less bias against emerging and expanding industries; (vi) There was a focus on compatibility (of activities with management objectives) to inform MSP regulations; (vii) and stronger, more robust and defendable activity rankings.

Dr Holness summarized the process for securing marine spatial biodiversity priorities, and the role of EBSAs in the process, as follows: (1) The biodiversity sector compiles an integrated portfolio of spatial priority areas with recommendations for how those are managed (including EBSA – the EBSA process has been an important venue for initial engagements on zoning and refining management recommendations); (2) MSP and MPA processes are where the negotiations, spatial adjustments, compromises etc are made; (3) Priority areas are finalised as MSP zones, and recommendations are finalised as MSP management regulations; (4) EBSAs are fully embedded, but become less separately visible in zoning and recommendations

At the moment, revised management recommendations and zoning have been put out for comment (online survey). There has been initial engagement with sectors that raised concerns, in particular PASA and petroleum rights holders, and mining. More effort is needed to engage with fisheries (scientists, then industry) and other sectors. This will be part of the overall process for the National Coastal and Marine Spatial Biodiversity Plan: Map of Critical Biodiversity Areas (CBA Map) and Sea-Use Guidelines V.1

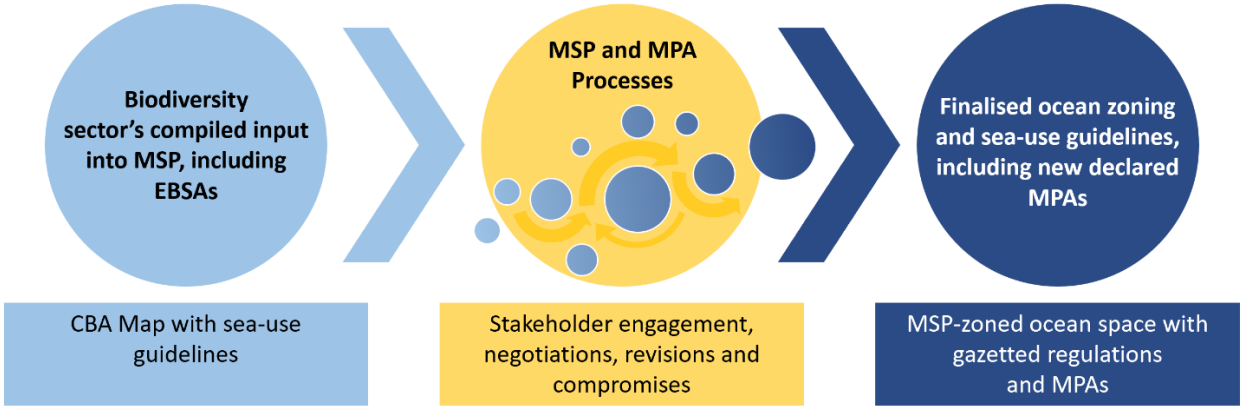

Figure 2. A schematic of the envisaged process from the CBA map and sea-use guidelines to MSP zones with gazette regulations and additional MPAs.

9. Launch of the process for the National Coastal and Marine Spatial Biodiversity Plan: Map of Critical Biodiversity Areas (CBA Map) and Sea-Use Guidelines V.1 (Beta 1)

Dr Harris, before her final presentation, was introduced by Jeff Manual (SANBI). Dr Harris made it clear that the version of National Coastal and Marine Spatial Biodiversity Plan: Map of Critical Biodiversity Areas (CBA Map) and Sea-Use Guidelines V.1 was a Beta version. Such versions are made available for testing, typically by a limited number of users beyond the people developing it, before their general release.

A CBA Map is a spatial plan for the natural environment, and is designed to inform planning and decision-making in support of sustainable development. This process is well established on land and is now being extended to the ocean. South Africa's first National Coastal and Marine Spatial Biodiversity Plan, comprises the National Coastal and Marine CBA Map and accompanying sea-use guidelines. The intent of this plan is to consolidate the biodiversity sector's spatial prioritisation of the South African coast and ocean to provide inputs into national MSP as well as other planning and decision-making processes. This is to ensure that marine biodiversity assets and ecological infrastructure are secured, and that development of the ocean economy is sustainable. It also includes contributions towards identifying focus areas for Marine Protected Area (MPA) expansion, which builds on work that supported the declaration of 20 new MPAs in 2019.

In accordance with the Technical Guidelines for CBA Maps, CBA Maps must be developed using the principles of systematic biodiversity planning. These maps comprise three categories of biodiversity priority areas: Protected Areas, Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs), which are jointly important for the persistence of a viable representative sample of all ecosystem types and species, as well as the long-term ecological functioning of the landscape or seascape as a whole. The two other map categories are: Other Natural Areas (ONA) and No Natural Remaining (NNR).

The CBA Map Version 1 Beta 1 was built using a series of input layers in two classes: biodiversity features; and design elements. The biodiversity features are the 150 coastal and marine ecosystem types, 18 EBSAs, and one unique, special feature (Mallory Slope) that was digitized for inclusion based on bathymetry data. The design elements were the latest maps of protected areas, existing land-based CBAs and ESAs within the ecologically determined coastal zone from the four coastal provincial biodiversity plans, priority estuaries, and ecological condition of the ecosystem types. The cost layer was a map of cumulative impact to biodiversity from the National Biodiversity Assessment 2018 Marine Realm. Biodiversity targets were then set for the different types of biodiversity features, according to their extent, status, irreplaceability etc, and guided by expert recommendations. The Marxan decision-support programme was run using the input settings, data layers and targets described above, and following this, the Technical Guidelines for CBA maps were applied in a systematic multi-criteria approach to progress from the Marxan outputs to a CBA Map. This describes the process of spatial prioritization.

Each CBA Map category has a desired management objective: CBAs (1 and 2) need to be kept natural or near-natural; and ESAs (1 and 2) need to be kept at least functional, where further deterioration in ecological condition is ideally avoided. This means that activities within these areas need to be managed in a way that the management objective can be maintained. To do this, each activity needs to be assessed in terms of its compatibility with the management objective of CBAs and ESAs. The outcome of this assessment is that an activity is either compatible, conditionally compatible, or not compatible with the management objective of the CBAs and ESAs. This gives rise to the sea-use guidelines, which are a compilation of activity compatibilities with the CBAs and ESAs. The sea-use guidelines set out the minimum recommendations for management of activities. The recommendations do not override existing controls on an activity (e.g., gillnetting) or where prohibitions are already in place (e.g., ammunition dumping). Further, the ideal position is if improved place-based protection within biodiversity priority areas is pursued. This may require additional MPA declaration or expansion, implementation of other effective area-based conservation measures (OECMs), and sector-specific regulations, particularly in CBAs.

The CBA Map and sea-use guidelines (jointly, the National Coastal and Marine Spatial Biodiversity Plan) are then included in the MSP process as part of the biodiversity sector's input into the multi-sector negotiations. There are likely to be both spatial and regulation adjustments that are made iteratively to the CBA Map and sea-use guidelines through the MSP stakeholder engagement and negotiation processes. For example, where areas of conflict are identified, potential spatial adjustments to the biodiversity priority areas could be explored to try to find alternative areas in which to meet targets, target achievement could be re-evaluated, specific sites could be considered for exceptions to the management regulations, etc. The anticipated end point is that the Strict Biodiversity Conservation Zone II (OECMs) and Environmental Impact Management Zone – informed by the CBAs and ESAs, respectively – get delineated in the MSP process, and these will be fed back to the latest version of the CBA Map so that it is identical to the national MSP. Similarly, the activity compatibilities in the sea-use guidelines will inform the MSP regulations for activities. Once finalised, the MSP regulations will be fed back into the latest version of the sea-use guidelines so that they match the national MSP.

[Note that there have been many updates to the information since it was presented in October 2020. Although the principles are the same, the number of input datasets, formulation of the cost layer, proposed MSP Zones, CBA Map and sea-use guidelines have all been updated].

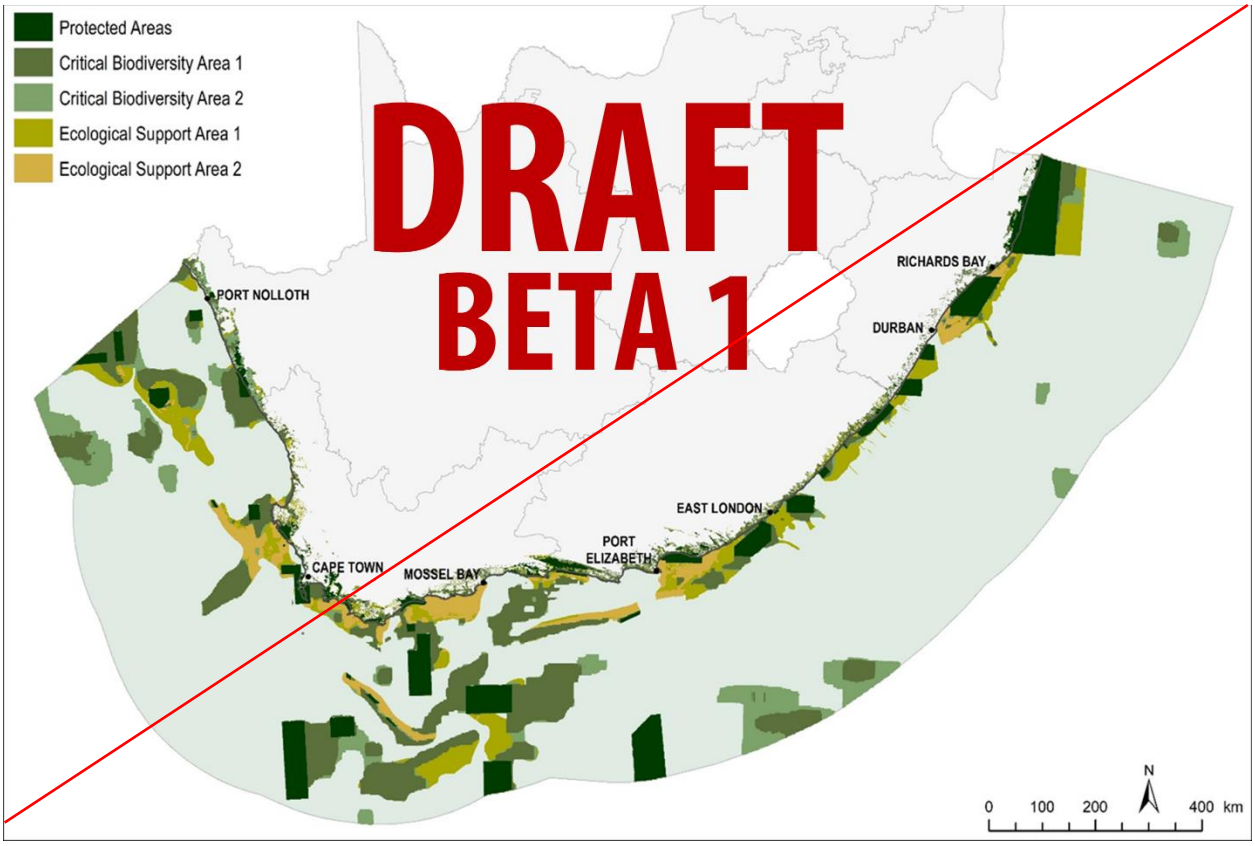

Figure 3. National Coastal and Marine CBA Map Version 1 Beta 1 (as presented, but revised in subsequent versions), incorporating EBSAs and showing the locations of MPAs and different CBA Map categories.

Erratum: The original distribution of this Information Session Report included the National Coastal and Marine CBA Map Version 1.0 (Released) instead of Version 1 Beta 1. The map above (Version 1 Beta 1) is the version that was presented on 22 October 2020, shown with a strike-through because it has been succeeded by subsequent versions.

Appendix 4:

MEETING COMMENTS AND RESPONSES

Below, we address comments and questions that were submitted for the Information Session on Marine Spatial Biodiversity Priority Areas as an input for Marine Spatial Planning (MSP) – these were provided during the meeting by participants in the chat function of the online meeting platform and via the jotform survey during and after the meeting. Note that several of the comments received were regarding the MSP principles and process, and fall outside the scope of work to propose marine biodiversity priority areas, which was the main purpose of the Information Session. Moses Ramakulukusha of the Marine Spatial Planning National Working Group (MSPNWG) has assisted in these, and requests that any further comments on the process are directed to him (MRamakulukusha@environment.gov.za). Comments below addressed by Moses on behalf of the MSPNWG are marked MR.

Note also that all presentations have been made available online at https://cmr.mandela.ac.za/Research-Projects/EBSA-Portal/South-Africa/National-Coastal-and-Marine-Spatial-Biodiversity-P/Marine-Spatial-Biodiversity-Priority-Areas-as-an-i.

Also take note of the comments and questions form regarding stakeholder engagement, available at https://form.jotform.com/202882359012049

The website for EBSA status and proposed management recommendations is here: https://cmr.mandela.ac.za/EBSA-Portal/South-Africa/SA-EBSA-Status-Assessment-Management

The document structure utilises the presentation and associated presenter as the heading and collates all comments and queries related to the presentation thereunder.

Introduction: JUDY BEAUMONT

Khalid Mather:
We cannot support industries which destroy biodiversity and compromise the climate, even if we using MSP to veil the negative impacts. Harmful fishing subsidies, gas and oil drilling, alluvial and diamond mining are not compatible with expanding environmental and social resilience

> [Post-meeting response]: South Africa has goals of eliminating poverty and reducing inequality by 2030, as per the National Development Plan (NDP), which will result in some impacts on biodiversity. Operation Phakisa is an initiative to help fast-track implementation of the NDP, including through developing the ocean economy to its potential, while ensuring sustainable development that is guided by the best available data and science. For this, growth in marine industries such as aquaculture, tourism, oil and gas exploration, and transport and manufacturing have been targeted. The National Marine Spatial Planning Framework came about out of the need to plan for these activities and ensure a sustainable ocean economy, including with regard to safeguarding marine biodiversity. The focus of our work is to ensure that a connected, adequate, representative and efficient portfolio of biodiversity priority areas is identified and secured, based on the best available information, to support sustainable development of the ocean economy.

Khalid Mather:
It cannot be the position of MSP to mediate for these industries encroachment in the marine space. What is the actual stance? Do we believe in de-carbonization and rehabilitation? Or are we making a way for more commodification?

> [Post-meeting response]: The role of MSP is to improve the rational planning, management and governance of ocean space and marine resources. See also above response.

Rossouw, Nigel GSNL-PTS/EE:
Resource extractive industries should not be viewed as incompatible with Biodiversity Management and protecting biodiversity loss. The NEMA principles are grounded within an ecocentric and some have an explicit anthropocentric paradigm view. Development needs to occur within an ecocentric paradigm. Marine Spatial Planning needs to be explicit about its paradigm, which I see as not being exclusively biocentric

> [Post-meeting response]: MSP is a multisectoral process. This is explicit in the definition and the characteristics, principles and goals of MSP in South Africa, contained in the MSP Framework https://www.gov.za/sites/default/files/gcis_document/201705/40860gon451.pdf.
> Biodiversity/Environment is one of the sectors. In other words, marine spatial biodiversity priorities from the environment sector are a key input into MSP, but only one of the inputs into a multisector process.

Marine Spatial Planning. Operation Phakisa: Oceans Economy - MOSES RAMAKULUKUSHA

Khalid Mather:
If environment is just one of the sectors of MSP, then it has no point. Why do we even need to manage the OCEAN environment where everything else happens in? We need to actually transform management 20 years ago in a drastic manner:

> [Post-meeting response]: As signatories to the Convention on Biological Diversity, we acknowledge the need for transformative change to reach its 2050 vision. Note that in the updated zero draft Post 2020 Global Biodiversity Framework, draft target 1 under the goal of reducing threats to biodiversity reads: "By 2030, [50%] of land and sea areas globally are under spatial planning addressing land/sea use change, retaining most of the existing intact and wilderness areas, and allow to restore [X[1]%] of degraded freshwater, marine and terrestrial natural ecosystems and connectivity among them." This process is a significant step towards attaining this.
>
> There is a growing range of industries in our ocean space that need to be managed in a coordinated way, to avoid conflicts between marine uses and conflicts with the environment. South Africa is therefore implementing MSP to facilitate integrated management of human uses in the ocean.

Khalid Mather:

[1] To be negotiated, but a likely global target is 30%

MSP should strive to declare the entire EEZ as a protected area with designated shipping lanes and fishing regions, the environment is everything.

[Post-meeting response]: Protected areas are designated only in terms of NEM:PAA, and protected area expansion takes place in accordance with the National Protected Areas Expansion Strategy. However, as we understand the MSP Act and Framework, the outcome of the MSP process is to achieve harmonisation between economic activities while ensuring that biodiversity condition is maintained and/or improved through the appropriate allocation of space for each sector.

Khalid Mather:
The ocean and the world is dynamic, MSP has to reflect that capacity to be flexible and maintain ecological integrity. If we are beholden to economic interests and follow through, we risk the health of the entire ocean.

[Post-meeting response]: Noted and see above 2 responses.

Khalid Mather:
Stakeholders then need to be informed of the comprehensive consequences of all marine spatial actions, even future consequences

[Post-meeting response]: Noted.

Adams, Robin:
How will MSP be used to assist the country in meeting its CBD target of 10% of its EEZ declared as MPAs and have processes been identified to consult stakeholders during this process

[Post-meeting response]: Protected areas are designated only in terms of NEM: PAA. Robust stakeholder consultation is critical, as emphasized in a subsequent talk by Prof. Kerry Sink. The MPA expansion process has not yet been finalised, but it is recommended that sufficient of the biodiversity priority areas identified in the National Coastal and Marine Spatial Biodiversity Plan are taken forward into that MPA expansion process. The conservation goal in Operation Phakisa is 10% of the EEZ as MPAs. The large majority of priority sites for MPA expansion are by definition likely to be in the identified Critical Biodiversity Areas and hence the Plan and subsequent MSP negotiation play an important role in maintaining these areas in the interim before MPA declarations are negotiated and completed.

Jackie:
Robust stakeholder process requires that the stakeholders and rights-holders are part of the process

[Post-meeting response]: Agreed.

Johann Augustyn:
Why are wild capture fisheries still not explicitly included in Phakisa? All other development needs to take fisheries into account.

[Post-meeting response]: We cannot really answer for Operation Phakisa, but it is our understanding that it targeted emerging sectors and those sectors with the greatest growth potential, and that wild

caught fisheries sectors were deemed to have reached their full potential at the time the operation was initiated and therefore were not targeted for further growth. All sectors will be taken into account in the MSP process and have been included as a consideration (as part of the cost layer) in the National Coastal and Marine Spatial Biodiversity Plan.

Johann Augustyn:
Sustainable development of fisheries is crucial and explicitly included in the CBD targets.

[Post-meeting response]: Yes, we agree that this should also be a priority and that there is a need for a clear and inclusive set of marine spatial priorities for MSP, and options for securing spatial priorities through place-based measures should be developed. The Fisheries Branch within DEFF have their own representatives within the MSP National Working Group and therefore priority fisheries areas will be considered in the MSP process. Fisheries have also been considered when compiling the National Coastal and Marine Spatial Biodiversity Plan to ensure that where biodiversity priorities have been identified, these have the least impact to existing industries, as far as possible. By definition, a "CBA Map presents a spatial plan for the natural environment, designed to inform planning and decision-making in support of sustainable development".

Jackie Sunde:
When will the Act be officially promulgated by the President?

[Post-meeting response (MR)]: The MSP Act is law as of April 2019.

Jackie Sunde:
Will rights holders have the same status as stakeholders?

[Post-meeting response (MR)]: Each government department represented in the MSP process will play a leading role in the consultation process to ensure that all stakeholders in their respective sector are given an opportunity to participate in the MSP process.

Jackie Sunde:
Why have all mining applications not been suspended until the MSP are in place? In terms of the Act? Section 3 (2) states that all applications must be consistent with MSPs.

[Post-meeting response]: The MSP Act does not replace sector Acts but aims to ensure that there is coordination among sectors in the use of marine resources.

Jackie Sunde:
Will the social and economic components of the plans be holding a similar meeting such as this one in the very near future? Or have you already integrated social issues into your work thus far?

[Post-meeting response (MR)]: Socio-economic aspects will be an integral part of the MSP process. An intensive public participation process that will include local community participation is planned for the 2021/22 financial year. Each sector is also required to submit a sector plan; the National Coastal and Marine Spatial Biodiversity Plan, for example, is informing the Environment Sector Plan.

(As Environment Sector, we have included a few datasets representing areas of cultural and heritage significance, but these need to be and will be expanded in future versions. An aspect we are

particularly keen to continue strengthening is aligning biodiversity objectives in a way that they bring benefits to people (e.g., through tourism opportunities. Importantly, we have included various economic, social and heritage issues, because we are wanting to as far as possible align our priorities with compatible activities and avoid unnecessary cost and conflict. However, we are not attempting to represent sectors and are not claiming to fully integrate social or economic concerns. It is critical that each sector is represented in its own right through a robust sector plan).

Jackie Sunde:
Convention of Biodiversity Article 8 j as well as CBD PoWPA requires states to ensure full and effective participation of indigenous peoples and local communities in decision-making. Why has this planning process excluded them to date?

[Post-meeting response]: As above.

Dylan McGarry:
Where can we learn more about the platforms to engage with the MSP team?

[Post-meeting response (MR)]: The MSP website is currently under development and will be hosted on the DEFF website. When the link is available, we will also include a link to it from the EBSA Portal.

Dylan McGarry:
What forms of stakeholder engagement have occurred thus far to develop the plan and act? Where could we see documentation of the stakeholder engagement thus far?

[Post-meeting response]: The development of MSP plans is still to come and will include a public participation process. Stakeholder engagement is planned for the coming financial year. The MSP Act followed a parliamentary process which included public participation in all nine provinces.

Robert Landman:
Can you indicate who is represented on the NWG?

[Post-meeting response (MR)]: The MSP NWG is established in terms of Section 9 of the MSP Act with representation from departments with a mandate in the marine environment.

Johann Augustyn:
The fisheries sector has not yet been approached for any information. How can you draft a plan in 4 months if you have not yet requested any inputs?

[Post-meeting response (MR)]: Sector plans will be drafted with the involvement of the public in the 2021/22 financial year. Each government department is responsible for leading the development of a sector plan for their sector along with engaging their stakeholders. The timelines for completion of the National Coastal and Marine Spatial Biodiversity Plan do not represent the timelines for the MSP, and sector plans for all departments are to be completed in the following financial year.

(The data included in the National Coastal and Marine Spatial Biodiversity Plan representing fisheries is from the National Biodiversity Assessment 2018, with Version 1.0 of the CBA Map including four revised datasets following consultation with DEFF scientists in January 2021).

Johann Augustyn
Will social and economic assessments be done in the course of decision-making on MSP?

[Post-meeting response (MR)]: Social and Economic assessment will be part of the MSP process.

Eduard Groenewald:
When will O&G be consulted as part of the MSP process?

[Post-meeting response (MR)]: Public participation is planned for the 2021/22 financial year.

Merle Sowman:
How will government engage the small-scale fisheries sector and integrate their needs "ask" into the plan - will there be a sector plan for SSFs? what mechanisms to engage this sector?

[Post-meeting response (MR)]: Sector plans will be drafted with the involvement of the public in the 2021/22 financial year, including the fisheries sector plan, and will be led by the relevant government department.

Anna James:
Given that unlocking the economy is a goal, how does this plan see its relationship to small scale fisheries policy which has progressive cooperative management goals?

[Post-meeting response (MR)]: Sector plans will be drafted with the involvement of the public in the 2021/22 financial year, including the fisheries sector plan, for stakeholders to engage on the issues affecting their sector.

Khalid Mather:
Are the working groups representatives of the stakeholders? If the development has already matured to this extent?

[Post-meeting response (MR)]: MSP plans have not yet been developed; they will be developed with the involvement of sectors and their stakeholders.

Sherelee Odayar:
Many I&APs that were part of the public participation process initially did not receive notification that the MSP was gazetted.

[Post-meeting response (MR)]: The MSP Act was gazetted for public comments and all 9 Provincial Governments also undertook public participation through the NCOP before the Act was finally submitted to Parliament." [https://cer.org.za/wp-content/uploads/2017/03/MSP-Act.pdf]

The need for a clear set of marine spatial biodiversity priorities for inclusion into MSP, and options for securing spatial priorities through place-based measures – STEPHEN KIRKMAN

Dylan McGarry:
With regards to cultural and spiritual values incorporated in the MSP - How will customary rights, indigenous knowledge and intangible heritage of the ocean (such as the ocean floor which is a profoundly sacred resting place of the ancestors) how will these aspects of ocean heritage be considered in the MSP planning and consultation? How will the inherent conflict between sacredness of the sea floor and Oil and Gas drilling of the sea floor be considered in the MSP? Will Traditional Leader networks and religious organisations be consulted regarding this?

[Post-meeting response]: While the comments seems to be directed at the MSP process itself, we believe that such data would also enrich the CBA and MPA expansion processes greatly, and we have been making efforts to include cultural and spiritual data where they are available (e.g., sites such as Gompho Rock, Hole-in-the-Wall, Shaka's Rock; shell middens, caves and archaeological sites; and shipwrecks); recognising that this will also need some dedicated efforts in consultation with stakeholders. The team also welcomes advice on how this can be achieved, and which tools and data already exist that capture this information most accurately. Please capture any advice and/or data in this regard on SA Marine Spatial Biodiversity Priorities as an input for Marine Spatial Planning: Data submission (https://cmr.mandela.ac.za/Research-Projects/EBSA-Portal/South-Africa/National-Coastal-and-Marine-Spatial-Biodiversity-P/Marine-Spatial-Biodiversity-Priority-Areas-as-an-i#Feedback). Note that we also have a related project for which we have secured funding that aims, *inter alia*, to map culturally significant areas along the South African coast for inclusion in future iterations of the National Coastal and Marine Spatial Biodiversity Plan.

Jackie Sunde:
As you say ...must include cultural spiritual and socio economic and other locally relevant values

[Post-meeting response]: See above response.

Lindokuhle Xulu (217001964):
What are the measures put in place or mechanisms used to ensure that biodiversity data is managed efficiently?

[Post-meeting response]: The Department's Marine Information Management System (MIMS) is being developed with the purpose of providing a long-term archival data repository to safeguard valuable oceanographic and marine biodiversity data (www.ocean.gov.za). Currently, the MIMS is primarily hosting datasets created by the Department through research cruises, fieldwork, or the deployment of data generating instruments, as well as the entire South African Data Centre for Oceanography repository. However, in future the MIMS scope will be increased to house data from external institutions. MIMS will also support operational requirements of the National Oceans and Coastal Information Management System (OCIMS), which will provide an interactive platform for MSP once all required sector data has been made available.

Lindokuhle Xulu (217001964):
I believe anything that has to do with 'spatial' has to involve data.

[Post-meeting response]: Noted.

Does SA have a spatial database for all the biodiversity we have within our boundary?

[Post-meeting response]: See http://bgis.sanbi.org/ for the spatial layers that were generated from spatial biodiversity data for the National Biodiversity Assessment. And see response above.

Megan van der Bank:
OECMs hold potential as a means of implementing locally managed marine areas- the latter is done in many parts of the world and has long been advocated for in SA - but not realised

[Post-meeting response]: OECMs are a term that is applied to areas that are not formally protected areas, but are managed such that they provide important conservation benefits, in line with set CBD criteria. They have been recognised in relatively few countries so far, in the marine space. We need to make sure the areas that get recognized as OECMs are indeed delivering a conservation benefit equivalent to PAs.

Khalid Mather:
Shouldn't the aim of MSP be to designate our entire EEZ as an OECM?

[Post-meeting response]: South Africa's MSP vision is "A productive, healthy and safe ocean that is accessible, understood, equitably governed and sustainably developed and managed for the benefit of all."

Khalid Mather:
Doesn't the plasticity of OECMS however make them more viable for integrating economic mechanisms intom [sic]*, while keeping an ecological perspective? The critical difference away Pas…*

[Post-meeting response]: Question is unclear.

Lindokuhle Xulu (217001964):
Which coastal environments and ecosystems are being prioritized?

[Post-meeting response]: The National Coastal and Marine CBA Map sets and achieves representation targets for all ecosystem types within the planning domain. This means that a portion of every biodiversity feature, including ecosystem types, is included in the prioritisation.

Lessons from the Offshore Environment Forum and the Phakisa MPA consultations: the value of a robust, inclusive and iterative consultation process - KERRY SINK

Dylan McGarry:
Thank you so much Kerry for acknowledging the power and value of relationship building, and how important dialogue and real consultation is, especially in a country where there has been a long history of very violent exclusion.

[Post-meeting response]: Noted with thanks.

Jackie Sunde:

Operation Phakisa 22 MPAs continued to describe the MPAs as off shore but they were not all off shore - 11 out of the 22 had inshore/near shore impacts on local communities but did not consult these communites

[response from Siyabonga Dlulisa of DEFF]:
Consultation was done across sectors/provinces? as per NEMPAA sec 31, 32 & 33. There is evidence for that. Presentations were in English translated to Afrikaans, Xhosa and Zulu, depending on the particular province's language proficiency.

Dylan McGarry:
Thanks Kerry, under your recommendations about "engagement needs to be tailored" (which we feel is critical) part of that tailoring needs to include careful responsiveness to context - a good stakeholder process needs to think about every aspect of how people access consultation for example- how much does it cost people to get to consultation meeting - what languages are used, knowing enough about the context to know not just invite the chief for example - the best way to do this is to probably to partner and get advice from existing Civil Society partners to help with community engagement.

[Post-meeting response]: Noted with thanks. Also note the comments and questions form regarding stakeholder engagement, available at https://form.jotform.com/202882359012049

Adam, Yusuf, (Mr) (s210267747):
I suggest that "Youth 4 MPA", a network that recently presented a valuable webinar be an integral part of this type of event as they have much to contribute about the negative and unintended consequences on impact on people and locally impacted communities.

[Post-meeting response]: Noted with thanks.

Jackie Sunde (Guest)
At the meeting hosted by DEFF and SANBI in February you indicated that social and economic issues would be integrated into the planning processes going forward. In particular concern was raised in that meeting that DEFF and SANBI were starting to make management recommendations for EBSAs but there had been no inclusion of civil society or community stakeholders or rightsholders in the process to date. Please can we hear what progress has been made in these 9 months?

[Post-meeting response]: Invitations to the national EBSA workshop you are referring to (and the three before it) were open for anyone to attend, although the groups that you mention, arguably with the exception of civil society, may have been underrepresented. The need for broader publicizing of the events were pointed out at the same meeting. We believe that this Information Session represents progress. Appendix 3 of the National Coastal and Marine Spatial Biodiversity Plan lists the meetings and engagements we have had with various groups regarding the development of the sea-use guidelines (grown from the EBSA management recommendations). We also note that these are recommendations *proposed* by the environment sector, and that the stakeholder consultation and engagement is part of the multi-sectoral MSP process. We are taking additional steps by consulting with as many stakeholder groups as we can in preparing the environment sector's input to MSP, taking feasibility into account, both in terms of scale and Covid restrictions. The scale of prioritisation we are currently undertaking is at the highest level (national overview). Within the identified priority areas, there would then certainly need to be local-scale engagement with communities and a very wide

range of stakeholders to refine the boundaries, management, etc within those areas as part of the MSP process, and in some cases, the MPA expansion process.

Taryn:
The equitable inclusion of customary rights holders, small scale fisheries rights holders, customary land rights holders and other marginalised local communities needs to go far beyond the standard norms of stakeholder engagement. MSP planners, please seek the advice and contributions of social scientists, social process facilitators and civil society organisations who are experienced and competent at facilitating meaningful and sensitive dialogues across lines of race, class, gender, etc. This might be challenging, and take more time, and present unanticipated 'curve balls'. But without this, MSP will inevitably deepen existing social and environmental injustices, no matter what the intentions or goals of the plans are.

[Post-meeting response]: Noted, and we agree. We have forwarded this to the National MSP working group as well.

Anna James:
These processes should be at the beginning! Otherwise the power /knowledge configurations are already set.

[Post-meeting response]: Noted.

Dylan McGarry:
Yes, I would also follow up from Taryn's comment, we recommend that Civil Society, Social Scientists, Social process facilitators and traditional knowledge holder representatives should be invited into the working group? The One Ocean Hub would also welcome an opportunity to meet with the working group and share their findings around transformative ocean governance in South Africa.

[Post-meeting response]: Noted. We have forwarded this to the National MSP working group as well. There are also possible synergies between our forthcoming work on mapping culturally significant areas for inclusion in future iterations of the National Coastal and Marine Spatial Biodiversity Plan, and the work being done by the OOH. We have noted to make contact when that research starts. Thank you.

Dylan McGarry:
The CBD calls for indigenous people and local communities/ ocean users involvement in EBSAs, how has this been undertaken in developing the ACT and the MSP plans? According to the CBD this has to be undertaken right from the beginning of the MSP process. We would like to get information around how this was undertaken and how it plans to be undertaken with regards to EBSAs

[Post-meeting response]: “Enhancing the use of the traditional, scientific, technical and technological knowledge of indigenous peoples and local communities” is identified as one of several “voluntary practical options for further enhancing scientific methodologies and approaches, including collaborative arrangements, on the description of areas meeting the criteria for Ecologically or Biologically Significant Marine Areas” in Annex 2 of the COP 13 document (CBD/COP/DEC/XIII/12). The scientific, technical exercise of delineating and describing EBSAs thus does not explicitly require indigenous knowledge, but includes it as a voluntary option in the process. Fully recognising the value

that such information can bring, that level of engagement at a national/regional scale was beyond the scope of our project brief (which spanned the entire BCLME region). Where this kind of information could add value to an EBSA, we highlighted this in the EBSA description, with the intent that future revision of EBSAs will explicitly use the indigenous and traditional knowledge to further refine that EBSA. A particular example of this was in the Angolan EBSA, Longa Coastline, where virtually no scientific information exists, but members of the local communities have insights regarding fish declines, changes in the status of the river, etc. It was on the basis of this knowledge of the importance of the site, despite limited scientific information, that the EBSA was proposed, and collaborative research between scientists and local communities was recommended (https://cmr.mandela.ac.za/Research-Projects/EBSA-Portal/Angola/Longa-Coastline). Given the wealth of scientific information along the South African coast, we did not have as notable an example. Notwithstanding, we acknowledge this point and the value that local knowledge can add, and recommend that future revisions of the EBSA network make provision for this level of engagement with local communities. We also welcome any practical advice on where and how to access the type of information that would advance inclusion of indigenous knowledge into national planning processes, and hope to form collaborations with entities already working in this space. As indicated above, the development of MSP plans is still to come and will include a public participation process. Stakeholder engagement is planned for the coming financial year.

Building a coherent set of marine spatial biodiversity priorities for inclusion into MSP - STEPHEN HOLNESS

Doug Butterworth:
When will we have another of these sessions timeously advertised with opportunity to request agenda items

[Post-meeting response]: This session was specifically an Information Session, intended to update stakeholders on work that is being (or has been) done on marine spatial biodiversity priority areas for MSP and other processes. This Information Session should be the forerunner of further sessions, engagements or consultations. This Information Session (22 October 2020) was advertised more than a month in advance, via directed emails to a large stakeholder list, and via SANCOR among other platforms.

Doug Butterworth:
Much of the commentary thus far have been in terms a vague language that needs operational definition to be taken further forward in meaningful discussion. How is that (a key pre-requisite to further meaningful discussions) to be achieved, and will those discussions first be taken back to basics. There appears in the presentations to be many issues being taken as generally agreed, whereas they are in fact greatly open to question and need to be the priority topics for further discussions before moving forward.

[Post-meeting response]: A partial aim of the Information Session (as stated in the invitation) was to clarify the 'complex arena of different but related concepts, processes and acronyms' that are being used in marine area-based conservation discussions (e.g. EBSA, CBA, ESA, MSP, MPA, OECM)….etc'. These reflect terminology or concepts of the CBD to which SA is a Party, or that have been employed in Systematic Biodiversity Planning in South Africa for many years. The definitions of these and all terminology used are available in the Lexicon. A link to the Lexicon is on the EBSA Portal where all information on the National Coastal and Marine CBA Map is presented. We have added a

link to the Lexicon directly in the Technical Report, and will pull out several key definitions and include these in the report.

Khalid Mather:
Where is the Ocean? is it not "The environment?" shouldn't there be a hierarchy / priority of operations? What is the current Departmental capitulation arrangement? Does DEFF take precedence?

[Post-meeting response]: The area within which we are compiling the National Coastal and Marine Spatial Biodiversity Plan includes the ecologically determined coastal zone as defined and used in the NBA 2018 Coast assessment, and well as the extent of the marine realm around mainland South Africa as used in the NBA 2018 Marine assessment (see also the related paper on delineations). The marine realm extends from the edge of South Africa's mainland EEZ to the dune base. The extent of MSP is the EEZ, territorial sea, and up to the high-water mark. The input to MSP from the environment sector will be one of many sector plans submitted to the MSP process, with negotiations and decisions on the allocation of space made in a fair and transparent process; no single department or sector will take precedence over another.

Overview of the science underpinning the approach, with a focus on relevant components of the National Biodiversity Assessment 2018 - PRIDEEL MAJIEDT

Khalid Mather:
@Dr Prideel, what can you tell us about the state of our marine biodiversity right now and how it looks in the next 10 years? This will allow us to make inference about what sector needs to be prioritized in MSP, particularly if we follow the understanding that a healthy marine environment enables all the practices.

[Response by Kerry Sink]:
Khalid: Prideel is sharing the key findings of the National biodiversity assessment which reports on the state of marine biodiversity - executive summary is on the EBSA website or you can download the full report. Direct link to NBA 2018 Marine assessment: http://bgis.sanbi.org/Projects/Detail/225

Anna James:
It would be good to see intensity maps of the sand and off-shore mining activities.

[Post-meeting response]: The information from all sectors can be found in the NBA 2018 Marine Technical Report.
Direct link to NBA 2018 Marine assessment: http://bgis.sanbi.org/Projects/Detail/225
Also:
https://cmr.mandela.ac.za/EBSA-Portal/South-Africa/National-Coastal-and-Marine-Spatial-Biodiversity-P/Marine-Spatial-Biodiversity-Priority-Areas-as-an-i
The revised iterations of the technical report for the National Coastal and Marine Spatial Biodiversity Plan now includes maps of all sectors; however, because some of the revised maps include future priority areas for some sectors and commercially sensitive information, we cannot share these maps in the technical report because of the confidentiality agreements we have signed. For maps of current activities, see the NBA 2018 Marine assessment noted above.

Doug Butterworth:

While the intentions underlying the previous talk are admirable, the key question is whether they are attainable. What was presented "quantitatively" would clearly depend critically on the values of the parameters used in the computations. How were those parameters estimated? What is of concern is that in sub-components of marine ecosystems, and much more data-rich than what was considered here, such attempts have generally shown an inability to provide the level of predictive ability that the presentation implied. What is clearly crucially needed here is first a return to basics, to evaluate whether the approaches suggested are indeed quantitatively scientifically defensible, before going further down the road of implementing them. We next need a "Back to basics" discussion event.

[Post-meeting response]: The methodologies used in the NBA have been peer-reviewed and are therefore scientifically credible, albeit not a panacea and therefore can be improved upon. All details are recorded in the technical report. The assessments also include methods that have been published and applied internationally, and are considered best available. We would appreciate guidance on the literature related to the studies that you refer to in your comments. Please post any comments, literature and/or data that you may have to https://form.jotform.com/202922126548050.

Ecologically or Biologically Significant Marine Areas (EBSAs) in South Africa Recap: EBSA identification and updates - STEPHEN KIRKMAN

Khalid Mather:
Could EBSAs be operationalized into very large MPA's or OECMs, since they have ecological significance and we are already magnifying their uniqueness?

[Post-meeting response]: Identification of EBSAs is a science-based process that is separate from their management measures such as MPAs or specific EBSA zones. It would often not be appropriate for EBSAs to be MPAs in entirety because they can and do include some high-use areas. The proposed conservation zones of EBSA would fit better with this, and many of our new MPAs make a contribution to the protection of EBSAs. Note that uniqueness is one of seven criteria considered in the EBSA identification process.

Rossouw, Nigel GSNL-PTS/EE:
What data (actual and proxy) was used that provided sufficient coverage and quality to enable the spatial selection of EBSAs?

[Post-meeting response]: Data used to identify EBSAs included outputs from the spatial prioritisation from the Offshore Marine Protected Area project (Sink et al. 2011[2]), Benguela Current Commission Spatial Biodiversity Assessment (Holness et al 2011[3]) and the South African west coast (and national)

[2] Sink, K.J., Attwood, C.G., Lombard, A.T., Grantham, H., Leslie, R., Samaai, T., Kerwath, S., Majiedt, P., Fairweather, T., Hutchings, L., van der Lingen, C., Atkinson, L.J., Wilkinson, S., Holness, S., Wolf, T., 2011. Spatial planning to identify focus areas for offshore biodiversity protection in South Africa. Final Report for the Offshore Marine Protected Area Project. South African National Biodiversity Institute, Cape Town.

[3] Holness, S., Kirkman, S., Samaai, T., Wolf, T., Sink, K., Majiedt, P., Nsiangango, S., Kainge, P., Kilongo, K., Kathena, J., Harris, L.R., Lagabrielle, E., Kirchner, C., Chalmers, R., Lombard, A., 2014. Spatial Biodiversity Assessment and Spatial Management, including Marine Protected Areas. Final report for the Benguela Current Commission project BEH 09-01.

analyses (Majiedt et al., 2013[4]). Additional data were: potential Vulnerable Marine Ecosystems; a specific focus on threatened ecosystem types and targeted ecosystems (e.g., canyons, seamounts) from the NBA 2018 Marine Ecosystem Map, foraging areas of island-based colonial species, some use of irreplaceability for guidance on unique features, ecological condition, and targeted information, e.g., Karenyi (2014[5]).

Taryn:
How has MARISMA responded to the CBD advice on integrating the traditional, scientific, technological and technical knowledge of indigenous and local communities, in identifying EBSAs?

[Post-meeting response]: As indicated above, "Enhancing the use of the traditional, scientific, technical and technological knowledge of indigenous peoples and local communities" is identified as one of several "voluntary practical options for further enhancing scientific methodologies and approaches, including collaborative arrangements, on the description of areas meeting the criteria for Ecologically or Biologically Significant Marine Areas" in Annex 2 of the COP 13 document (CBD/COP/DEC/XIII/12). The scientific, technical exercise of delineating and describing EBSAs thus does not explicitly require indigenous knowledge, but includes it as a voluntary option in the process. Fully recognising the value that such information can bring, that level of engagement at a national/regional scale was beyond the scope of our project brief (which spanned the entire BCLME region). Where this kind of information could add value to an EBSA, we highlighted this in the EBSA description, with the intent that future revision of EBSAs will explicitly use the indigenous and traditional knowledge to further refine that EBSA. A particular example of this was in the Angolan EBSA, Longa Coastline, where virtually no scientific information exists, but members of the local communities have insights regarding fish declines, changes in the status of the river, etc. It was on the basis of this knowledge of the importance of the site, despite limited scientific information, that the EBSA was proposed, and collaborative research between scientists and local communities was recommended (https://cmr.mandela.ac.za/Research-Projects/EBSA-Portal/Angola/Longa-Coastline). Given the wealth of scientific information along the South African coast, we did not have as notable an example. Notwithstanding, we acknowledge this point and the value that local knowledge can add, and recommend that future revisions of the EBSA network make provision for this level of engagement with local communities. We also welcome any practical advice on where and how to access the type of information that would advance inclusion of indigenous knowledge into national planning processes, and hope to form collaborations with entities already working in this space. Please post any comments, literature and/or data that you may have to https://form.jotform.com/202922126548050.

Dylan McGarry:
Thanks Steve, we are very grateful for this science, and this data connected to these EBSAs. We would also like an opportunity to share additional Science from the One Ocean Hub network - particularly surfacing socio- cultural and economic research of livelihoods and cultural heritage (tangible and intangible) that

[4] Majiedt, P., Holness, S., Sink, K., Oosthuizen, A., P., C., 2013. Systematic Marine Biodiversity Plan for the West Coast of South Africa. South African National Biodiversity Institute, Cape Town, South Africa.

[5] Karenyi, N., 2014. Patterns and drivers of benthic macrofauna to support systematic conservation planning for marine unconsolidated sediment ecosystems. PhD thesis. Nelson Mandela Metropolitan University, Port Elizabeth.

overlaps with these EBSAs, and the complexly related cultures that are interdependent to the wellbeing of these areas, as well as their need to contribute to managing them, and having access to them.

> [Post-meeting response]: Noted with thanks. We welcome spatial data to integrate socially and culturally significant areas into biodiversity planning. Please post any comments, literature and/or data that you may have to https://form.jotform.com/202922126548050.

Taryn:
Where is the knowledge, experience, expertise and evidence held by others in society - particularly the local people who have lived in close relationship with ocean ecosystems for generations?

> [Post-meeting response]: We would welcome advice both on sourcing and integrating these data. Please post any comments, literature and/or data that you may have to https://form.jotform.com/202922126548050.

Overview of the underlying concepts of systematic planning: irreplaceability, best design, and conflict avoidance - Linda Harris

Robert Landman:
Are these tools used by the other signatories of the conventions on biodiversity? In RSA are we ahead, first? have other nations / signatories adopted this approach?

> [Post-meeting response]: Many Parties of the Convention have described EBSAs (there are more than 300 EBSA globally, see: www.cbd.int/ebsa/), and many are now implementing or introducing MSP. Many other countries or regions have also used a systematic biodiversity planning approach to prioritize areas for protection or enhanced management. Australia, California and the Arctic have good examples of application of these tools. South Africa has been doing systematic conservation planning for decades (see Botts et al., 2019) and is among the leaders in real-world planning (see Balmford 2003).

Anna James:
How are these decision support tools including rights holders?

> [Post-meeting response]: Spatial data of different sectors or companies contribute to a 'cost layer' that is one of the inputs to the decision-support software. In terms of systematic conservation planning principles, the algorithm seeks to minimize conflict with sectors as far as possible in the process of achieving a spatially efficient configuration of priority areas that meet biodiversity targets. It is worth highlighting that the systematic planning process provides a decision support tool. It does not, of itself, make decisions.

Anna James:
The avoidance of compromise by Marxan seems to be counter to the reality on the ground, that much of ocean devastation is trapped in tensions so how does this get to the root of threats to marine protection?

> [Post-meeting response]: A notable outcome of the MSP process will be to resolve many of the existing user-user and user-environment conflicts, with evidence that small compromises by all

sectors can maximize overall wins (e.g., White et al. 2014[6]). Marxan seeks to identify a portfolio of sites that meets biodiversity targets in a configuration that is efficient and minimizes conflict (and ultimately, compromises) with other sectors. However, it may still identify an area as important for biodiversity that is also important another sector(s). It is these sites that can then be targeted for investigation, negotiation and compromise during the MSP process. The advantage of using Marxan is that it streamlines the negotiations to only those legitimately overlapping priority areas.

Anna James:
What work is done to integrate these tools with other planning considerations?

[Post-meeting response]: In an MSP situation, priority area recommendations achieved with the assistance tools such as Marxan would be subject to a negotiation process. In particular, these negotiations would be regarding areas where there was still overlap between biodiversity priorities and one or more sectors.

Khalid Mather:
Are activities in the ocean as static as ecological processes? What is the decision making prioritization protocol when aiming for a certain type of spatial hierarchy?

[Post-meeting response]: Both activities and ecological processes are often not static in the ocean, and are dynamic in space and time. We can usefully explore a range of scenarios with the tools we have, and accommodate the variability if there are spatial data to represent it.

Lomberg Nicole
A potential issue for some industries, particularly those that are not well established in South Africa, relates to your cost inputs - where the 'fine scale' cost info inputted does not reflect the real situation/activity.

[Post-meeting response]: This is why it is very important to the process to get the right information in. This is further dealt with in the last presentation. We would welcome advice both on sourcing and integrating these data. Please post any comments, literature and/or data that you may have to https://form.jotform.com/202922126548050.

Khalid Mather:
By not having a priority, we become open to these different sectors frustrations. There has to be something to be prioritized, the Environment and other sectors have to take subsequent place? Does Marxan allow this

[Post-meeting response]: All sectors should be treated equally in the MSP process, and decisions should be made in an open and transparent manner. Marxan does not give precedence to Environment as a sector in the MSP process. Rather, it is a tool that allows us to compile the portfolio of biodiversity priority areas that seeks to avoid other sectors where possible, to ensure a design with the highest likelihood of implementation because there is the lowest possible conflict.

[6] White, C., Halpern, B.S., Kappel, C.V., 2012. Ecosystem service tradeoff analysis reveals the value of marine spatial planning for multiple ocean uses. Proceedings of the National Academy of Sciences 109, 4696-4701.

Khalid Mather:
Almost every presentation has been about the significance of the environment or biodiversity? Does this not empirically dictate that environmental considerations are paramount?

> [Post-meeting response]: This session was specifically dealing with the biodiversity inputs into the MSP process, therefore, it is expected that the presentations would be geared to discussions on the importance of the areas identified for biodiversity management. The proceedings of this session should not be taken as representative of the full suite of considerations that will need to be included in the MSP process.

Costa, Hugo:
Would marine KBAs be an additional layer or would these replace EBSAs for being assessed through more quantitative information?

> [Post-meeting response]: South Africa has not embarked on any analyses to identify KBAs in the marine realm yet - we need more species data and more systematic surveys to achieve this in the longer term. Once they are achieved, marine KBAs could be included as an additional layer and/or an alternative to EBSAs. There is considerable overlap in the criteria for the two processes and they can be complementary.

Kirsty Du Plessis:
The Marxan approach appears to be very binary in its assessment? Does it take into account the nuance of whether an area is temporally important, as well as whether an activity that is found across multiple areas has a particular focused area that overlaps with other activities that may take preference to other industries?

> [Post-meeting response]: Yes - there is a lot more nuance in the Marxan analysis than was presented. The simplicity of its presentation was just a case of reducing a 3-day teaching course into a 10-minute presentation. You can specify the intensity of an activity, amount of a feature in a planning unit, etc. Marxan then takes that into account when making selections. See https://marxansolutions.org/.

The EBSA zoning and management recommendations, process to date and feedback on initial engagements on the EBSA zoning and CBAs - STEPHEN HOLNESS

Jackie Sunde:
Subsistence fisheries was replaced by small-scale fishing in amendment to MLRA in 2016

> [Post-meeting response]: Noted, thank you. We have changed this in the Technical Report.

Dylan McGarry:
These management recommendations are offered way too soon - these recommendations cannot be considered until there is more detailed community and stakeholder engagement - I think there needs to be an active pause with regards to recommendations. Would it not be possible for these recommendations to be explored across disciplines, i.e. not only marine science data, but sociological, anthropological,

economic and legal data - and then looking at all these data sets first before recommendations are offered - the One Ocean Hub network would have the capacity to assist with this.

> [Post-meeting response]: These are based primarily on biodiversity considerations. Recommendations of other sectors shall also be considered in the MSP process.
> We would welcome spatial data to integrate socially and culturally significant areas into our cost layer for biodiversity planning. Please post any comments, literature and/or data that you may have to https://form.jotform.com/202922126548050.

Doug Butterworth:
To endorse Dylan's concern, but more so. There first needs to be a much more fundamental evaluation of the scientific defensibility of some of the approaches being suggested in terms of their ability to attain results of meaningful robustness/precision

> [Post-meeting response]: The proposal builds on nearly two decades of marine biodiversity assessment and systematic biodiversity planning in South Africa, using well established methods and principles, and has undergone peer review. Marxan is also used in nearly 200 countries by nearly 5000 organisations and almost 7000 users (https://marxansolutions.org/). We are open to providing more clarity on the methods we have used as part of ongoing stakeholder engagement. However, we are confident that we are using the best available science, supported by local and international literature, to undertake this process. South Africa is also regarded as one of the leaders in real-world systematic biodiversity planning. See also Botts et al. (2019) for a history of systematic biodiversity planning in South Africa, spanning nearly three decades (1990-2017).

Merle Sowman:
Agreed - we need to understand the socio-cultural and economic dimensions as well as how different communities and stakeholders value these areas/resources/features before getting into management recommendations.

> [Post-meeting response]: As above, these discussions and engagements will be part of the MSP stakeholder process. We still welcome spatial data to integrate socially and culturally significant areas into the biodiversity planning. Please post any comments, literature and/or data that you may have to https://form.jotform.com/202922126548050.

Rachel Kramer:
Thanks, this has been very interesting. Regarding the management recommendations- who would use these, or how do you envision the uptake of these recommendations, if not legally binding, like gazetted MPA regulations? Just curious (I might have missed this)

> [Post-meeting response]: Recommendations are aimed initially as an input into decision making in the MSP process and ultimately for uptake in marine area plans, which will be formally gazetted (first for comment).

Dylan McGarry:
Thanks @Doug, yes I would say we are very grateful for these different tools, and we would like to expand the number of tools available for making recommendations that are not only marine science tools and/or algorithms - including customary knowledge and innovations as laid out by the CBD as per Article 16, as

well as Article 8(j) which deal with the interests of indigenous and local communities. These are Articles 10 (c), Article 15.5, Article 17.2, and Article 18.4.

> [Post-meeting response]: We would welcome the advice of those already working in this sector, and highly support the development of additional tools to the ones used in the CBA process to support decision-making in the MSP process.

Jackie Sunde:
Has the Fisheries Branch shared with your branch the fact that they have allocated fishing rights to over 300 small scale fishing coops as I see it's not included. Again this leads to perceptions of non-inclusive processes if some sectors like mining are seen to be ahead in terms of engagements and stakeholder discussions and other less powerful have yet to even be named in your plan

> [Post-meeting response]: We have since been in contact with the fisheries scientists and received a list of 130 co-operatives in South Africa. There were no spatial data to go with the list nor guidance on how to include these spatially (e.g., use a metro or similar boundary), so we were unable to include these in the analysis. As soon as such data exist on the spatial delineation of the co-operatives, and ideally an intensity value too (e.g., number of rights holders or fishing days; whatever is appropriate to indicate the level of avoidance we need to apply per area), we will be able to include these data.

Enrico Gennari:
Stephen, I have to say. Fantastic presentations and research behind the scenes. Congratulations to all. Very urgently needed. However I wonder whether all the funds and efforts have been put in the MSP process, but then without proper longterm strategy, and funding, specifically for enforcement and monitoring, it would be a great sad excercise. Is there any discussion about how to enforce and monitoring these spatial planning future decisions? Don't want to sound pessimistic but rather realistic

> [Post-meeting response]: Agreed. This is only a small part of the picture. Management, monitoring, and enforcement all need to be taken seriously. Our understanding is that this is being dealt with in the Operation Phakisa Marine Protection and Governance Lab activities focussed on compliance and enforcement. One of the lead members of this Lab is a member of the MSP NWG and so we are hopeful that monitoring will be considered within those discussions. At the very least, we can start towards actually planning marine space and trying to move towards a sustainable seascape. This is needed by all sectors.
> It is also important that the MSP zones get embedded in legislation, so we are also hopeful that the MSP process and formalization of its outcomes will be helpful in formalizing spatial outcomes. Furthermore, at the strict-protection end, we would be hoping that a fair portion of CBAs, after due process, end up as MPA and that would hopefully also secure additional protection for marine biodiversity.

The National Coastal and Marine Spatial Biodiversity Plan: Map of Critical Biodiversity Areas & Ecological Support Areas & Sea-Use Guidelines Version 1 (Beta1) - JEFFREY MANUEL AND LINDA HARRIS

Merle Sowman:

Mining has been recently been authorized in CBAs in the coastal environment on the west coast - even an appeal to the Minister of the Environment did not stop the mining? So we need to get broad consensus on these various categories of PAs across govt and various stakeholders and communities and then agree on consent uses otherwise they may not be respected

[Post-meeting response]: Agreed, we need to get to a consensus as a sector, and then get this embedded as formally as possible into the MSP process and other regulatory processes.

Note (from J Manual): the CBA is intended to be taken up into those sectoral processes - ideally into mining planning, for example. That does not mean that the CBA map 'sterilises' that land - only that it should inform decision-making. Should it not be taken into account into the regulatory planning processes, the CBA map is a transparent tool that can support accountability and administrative justice. There is legal precedent, where civil society have successfully appealed or taken the regulator to court to contest whether the regulator has applied its mind.

Kirsty Du Plessis:

The process needs to include economic impacts of designations, as well as assess combined pressures/limitations on users/activities, not in isolation of others.

[Post-meeting response]: By using maps of 19 different sectors and a cumulative impact map as part of the cost layer, the Marxan analysis strives to minimise impacts to industry by using the cost layer as the level of avoidance of particular areas. The National Coastal and Marine Spatial Biodiversity Plan, as stated before, does not make decisions, but rather argues for biodiversity management in specific areas in a configuration that meets all biodiversity feature targets, is efficient and avoids as much conflict with other sectors as possible. The proposed management recommendations in the sea-use guidelines are focussed on biodiversity management, and therefore are not expected to cover all aspects that should be considered in the MSP decision-making process. We will pass on this advice to the MSPWG for their consideration.

Comments submitted via JotForm

What lessons should we learn from past processes to avoid this time (other than what was already captured in the meeting)

SAIAB

- *Ensure that the needs of local level stakeholders are adequately accounted for in the "cost" layer.*
- *While it is important to ensure that all stakeholders feel heard, it is especially important to ensure that previously, and currently, disadvantaged and marginalised stakeholder needs are heard and either realistically accounted for and/or adequate time is taken to explain and discus ultimate decisions.*
- *Engage with social scientists and transdisciplinary experts who buy into the concepts and importance of biodiversity conservation and sustainable management for long-term benefits to society.*

[Post-meeting response]: Noted with thanks. Further, we are trying to take steps to reach more of our stakeholders, e.g., we have a 5-min video on the EBSA Portal explaining marine spatial planning that is now available in Afrikaans, English, isiXhosa and isiZulu.

Is there an area of work that was presented that you don't understand and would like explained again?

SAIAB

1. Gaps:

1.1. While most of the inshore/nearshore areas are well covered there are some gaps. Some of these appear to be related to incompatibility with other marine activities, eg around St Francis Bay – I assumes it's the Chokka and other incompatible activities? But others don't (eg between Kei Mouth and Dwesa). What is the reason for this?

[Post-meeting response]: The way the algorithm works is to select a proportion of all input biodiversity features that meet specified targets for the lowest possible cost (in our case, cost is conflict with other sectors). This means that if the target is 20% for an ecosystem type, only 20% of its extent will be selected in the prioritisation to be maintained in a natural or near-natural ecological condition (i.e., be reflected as a Critical Biodiversity Area) in places where there are the fewest other activities operating and/or fewer activities operating at lower intensities. The CBAs are built in such a way that all targets are met for all features. Ecological Support Areas are areas within which more activities can take place because the management objective is more about keeping biodiversity functional than natural. They are generally more important for maintaining ecological processes across broader areas. It is important to keep in mind that it is not feasible to include the entire coast in a multi-sectoral process. Already, virtually the whole coast between Kosi and Port Elizabeth is included in one of the CBA Map categories. There are some CBA 2s between Kei and Dwesa in the National Coastal and Marine CBA Map Version 1 (Released) In addition, there are a number of MPAs which contribute significantly to meeting targets.

1.2. There are huge gaps in the offshore environment. Is this due to a lack of data? If yes, then it should be clearly stated.

[Post-meeting response]: There are lower targets for the offshore environment. Fewer biodiversity data and fewer imminent pressures and conflicting activities from which biodiversity needs to be secured, contribute to this. This will be explained in the report.

1.3. It could be of value to map the areas where there is inadequate data to create reliable CBA maps. This would allow users of the maps to see that a gap is a gap because there is not much of value there, or a gap is a gap because there is a gap in the available data.

[Post-meeting response]: We are including maps of all of the biodiversity features in the Version 1 technical report so that readers will be able to evaluate data richness. New releases contain significant additional data including on pelagic seabirds, cetaceans and other groups. We will explore other options for data visualisation before releasing the report. Note, though, that every planning unit in the entire planning domain has at least two biodiversity features and one cost value.

1.4. In general, it should be clearly stated that this version of the CBA (and future ones) is based on best available current knowledge and that the CBAs will be updated as more data becomes available. This might result in a new spatial configuration of the CBA maps and further discussions with other stakeholders to determine how best to incorporate this new biodiversity data into the MSP. A similar compromise is

suggested with the oil and gas industry, where more data on the distribution of natural gasses becomes available then it may results in changes to the spatial configuration of the CBA maps.

[Post-meeting response]: Agreed. This is clearly stated in the report in several places.

1.5. Relative to the east coast, the Agulhas Bank seems to be underrepresented. Why is this?

[Post-meeting response]: This does not appear to be the case. Further, all biodiversity targets were met; suggesting that no feature is underrepresented in the selection.

1.6. The species data misses out fish, invertebrates and aquatic plants. Algal dominated reefs are identified as important areas for climate resilience but seagrasses have been shown to perform a similar function and, as such, estuaries with extensive seagrass beds should also be included.

[Post-meeting response]: We are fully aware that the biodiversity datasets are incomplete. We did the best we could to assemble as many available data that we could within the timeframes required to produce the CBA Map, and gave two opportunities for people to submit data to us. The gaps notwithstanding, this is the most comprehensive national spatial prioritisation undertaken for South Africa's marine territory to date, with 886 features included. We welcome further contributions to future versions of the CBA Map. We did note that more features needed to be added to the layer representing carbon sequestration, and will build this layer up in future. For now, algal-dominated reefs have been reclassified as 'Unique or special habitats'. Estuaries were outside of the current planning domain, as explained in the technical report; however, we will be doing a dedicated national estuary CBA Map that will be integrated into the new version of the National Coastal and Marine Spatial Biodiversity Plan.

2. Existing MPAs and the spatial analysis:

2.1. Does the modelling take into account that an existing MPA may not protect a feature when calculating the ecological "ask" in the CBA map? Or does it assume that because the feature is in an existing MPA that it is automatically protected? Because of zones in MPAs, this may not always be the case.

[Post-meeting response]: This is probably more important to take into account when considering the species that are targeted from allowed fishing inside of MPAs. Currently, we do not (yet) have data representing these species in the plan. However, this is a valid point that would need to be taken into account when assessing target achievement for those species. We include ecological condition as a design element for ecosystem types (similar to how the NBA 2018 takes ecological condition into account when assessing ecosystem protection levels). In the CBA Map Version 1.0, feature targets are met for all 160 marine and estuarine (shores) ecosystem types in a natural or near-natural ecological condition, except for 4 types. These four ecosystem types meet their targets in natural to moderately modified ecological condition. Therefore, although we don't account for MPA zones explicitly, the target portion of ecosystem types is selected in areas that are in good ecological condition, with a few smaller areas in fair ecological condition.

2.2. The Sea-Use guidelines indicate the CBAs falling within an MPA adopt the MPAs management strategy. What happens if the MPAs management strategy is not compatible with the requirements for the CBA?

[Post-meeting response]: CBAs and MPAs are separate map categories and by definition cannot overlap, which is emphasized in the report. MPAs are managed by their gazetted management regulations. The sea-use guidelines provide the recommended management regulations for CBAs that would support the management of objective of maintaining the area in a natural or near-natural state, with the final regulations being what is gazetted in the Marine Spatial Plan.

3. CBAs without constraints to reduce conflict with non-biodiversity sectors.

3.2. Is it possible to show the extent of the CBAs without being constrained by requirements to reduce stakeholder conflict and conservation targets? (Or would this be the entire coastline?). ie (including 1.3) you could have a layer for the entire coastline showing areas where there is insufficient data, showing the full extent of the CBA and then showing the "ask"? This would put the "ask" in context and illustrate existing compromise.

[Post-meeting response]: The algorithm cannot run without targets for the input features, and with a zero cost layer, the output would end up being a random design. In virtually all cases (except for unique or very rare features that occur in only a few planning units), there are options for where biodiversity features can be secured; generally, only a portion of a feature is required for it to be maintained. It is therefore prudent to compile an initial starting point that accommodates as many priority areas for other sectors as possible to have the best chance of implementation in a multi-sector process. The current CBA Map is such that all feature targets are met. It is through the MSP process that compromises may need to be made. By assessing shortfalls on feature targets in that final zoning design, we will be able to determine what the compromises are/have been. It is likely that this kind of scenario planning will inform the MSP negotiations, e.g., if the design is modified as requested to accommodate the priorities of an industry, it will mean that 5 biodiversity features will not be able to meet their targets, 2 of which are Endangered species; therefore, given the risk of biodiversity loss, it is recommended that the change is not made. Or, the outcome may be that there are alternative areas in which those feature targets can be met and therefore the change could be made to accommodate the industry and still meet biodiversity targets. And so on.

Recognising that the formal, robust, multi-sector stakeholder engagement will take place through the MSP process, what are the key elements of stakeholder engagement that we need to do for compiling the marine spatial biodiversity priorities?

SAIAB

- *Engage at a high level within research institutions to gain support for the provision of data.*
- *Engage with researchers to inform them of the data requirements to assist in the development of spatial layers while minimising impact to students who might be using the data.*
- *Determine an appropriate way to reflect the contributions of research organisations to the development of the CBA maps and National plan. This will be essential to get the institutional buy in as it can be used by institutions to demonstrate the applied value of their research activities.*

[Post-meeting response]: Noted with thanks. Development of the Environment Sector Plan as an input in the MSP process will allow stakeholders to participate in the process. Workshops are planned for

the 2021/22 financial year. We had also secured a special session for SAMSS (South African Marine Science Symposium) to present, discuss and workshop data needs, etc; however, this was postponed due to Covid-19 (as indicated in Appendix 3 of the report). We will still have the session when the conference goes ahead so that additional data can inform future versions of the CBA Map. And we fully support appropriate and full acknowledgement of data contributions and input by all stakeholders.

Are there any data of which you are aware that we have not already listed in Appendix 2 of the Technical Report that you think we need to include in the national Coastal and Marine CBA Map?

SAIAB

- *National BRUVs data for distribution, abundance and size of fishes and elasmobranchs*
- *ATAP telemetry spatial data for connectivity and key habitats for important species.*
- *Fishery species spawning grounds. This is in published papers and will need to be mapped. A SAIAB PhD student has mapped the distribution and abundance of the early life-stages of many coastal fish species throughout the Swartkops, Sundays and shallow nearshore of Algoa Bay. This information is useful for determining nursery hot spots, particularly for important fishery species. The data is for her PhD – so not published yet.*

  [Post-meeting response]: Noted with thanks. We have included several datasets representing fish spawning and nursery areas from published papers. We welcome any additional data contributions, and will note these suggestions in Appendix 2.

Please provide any other comments and/or questions you may have in the box below.

SAIAB

- *Although rocky intertidal areas have been examined and classified, based on the priority needs, it seems that the text is lacking a strong motivation as to why certain rocky shores require focus, e.g. no real mention on habitat-forming species and associated ecological functions (maintenance of diversity, nursery, bottom-up processes) and services (e.g. improvement of water quality, buffering flow stress, stabilising effects of coastline). Linked to this point, attention for its ecological function on mapping location of habitat forming species should also be listed/mentioned even if many of these coastal species are not endangered.*

  [Post-meeting response]: In systematic biodiversity planning, ecosystem type is generally (almost always) used as a surrogate for biodiversity and all the kinds of aspects mentioned above. For example, in systematic conservation planning for sandy beaches using Marxan, unpublished results indicated that it made no difference to the selection whether beach macrofauna and microflora (surf phytoplankton and microphytobenthos) were included/excluded in the input datasets because ecosystem type was such a good surrogate of beach biodiversity (Dr Linda Harris, pers. comm.). Species data make the most difference to the prioritisation when they are not represented by ecosystem types, e.g., in the beach example, shorebirds (Dr Linda Harris, pers. comm.). More focus will be applied to the shores in the next version of the CBA Map. If there are additional data that rocky shore ecologists feel it is important to include, we welcome these contributions. Justifications as to why each biodiversity feature requires protection is largely beyond the scope of the analysis. For that

kind of information, the NBA is a more appropriate information source. These recommended supplementary resources are now listed at the start of the technical report.

- *Being an assessment of critical biological diversity and ecological support areas and linking to the role of small scale nursery/recruitment habitats: the hotspots for (diversity of) larval and juvenile assemblages should be included as important features of spatial planning, to pinpoint those habitats that enhance/favour diverse larval and juvenile assemblages.*

  [Post-meeting response]: We have included the DEFF nursery importance rating for all of the estuarine shores and mouths as an input dataset. We also have several datasets representing fish spawning and nursery areas. If there are additional data to represent important nursery areas, we welcome these contributions.

- *The explanations provided in Box 2 for the exclusion from marine spatial planning of connectivity in relation to corridors may need some revision. Even occasional corridors created by fast flowing features associated to the Agulhas current (i.e., Natal Pulses) can export and sink large quantities of coastal propagules (Porri et al. 2014; Weidberg etal 2015). Long term or seasonal estimates are now available, but this mechanism is in place.*

  [Post-meeting response]: The point made in Box 2 is that marine connectivity needs to be mapped differently to how it is framed on land because of the differences between the two environments, and that it is an area of active research, globally. We note: "After reviewing the scientific literature and discussing this issue with the broader biodiversity planning community in South Africa, it was decided that having a well-designed network of sites in the marine realm that could facilitate species' range shifts (e.g., be suitably sized and spaced) is more appropriate than including ecological corridors in the same way that they are delineated and included in terrestrial plans. … Including connectivity in biodiversity plans for the marine environment is an area of active research, globally."

  Our current position is to have a connected network of sites rather than explicitly including a full corridor per se, and that more research and testing is needed on this point; which is partly what prompted compilation of Annexure 1. We welcome additional contributions on this topic, and will carefully review Box 2 in light of these comments.

- *Perhaps a link to the available ocean model for Algoa Bay by Dylan Bailey should be included.*

  [Post-meeting response]: The portion of the map representing Algoa Bay comes from a finer-scale plan that was compiled in 2019. We did consider the ocean model in that plan, but the ocean model was not included in the end because of the scale of the analysis.

- *SAIAB could contribute with knowledge on two of the points listed at page 72 of the section 8.1.3 on Ecological corridors*
  • Identifying any known areas of larval dispersal
  • Identifying key areas of land-sea connectivity that are not accounted for in edge-matching the terrestrial, inland aquatic, estuarine and marine prioritisations?
  With corridors, barriers should also be identified.

  [Post-meeting response]: Noted with thanks.

Anonymous
Very interesting presentations, thank you. I look forward to seeing your responses to the comments made in the chat column.

[Post-meeting response]: Thank you.